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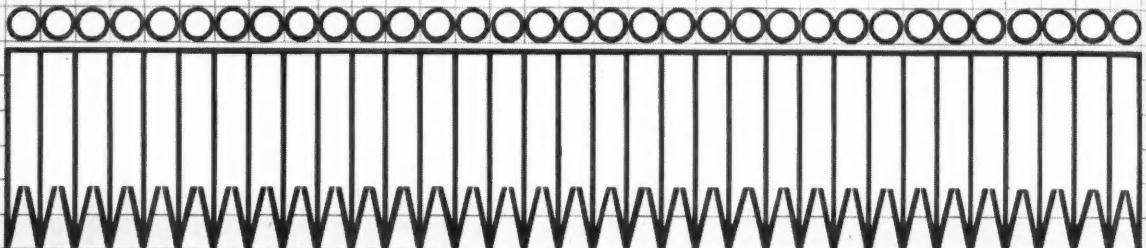
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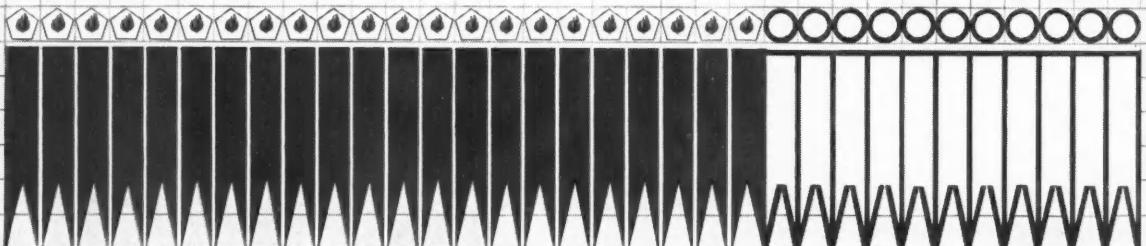
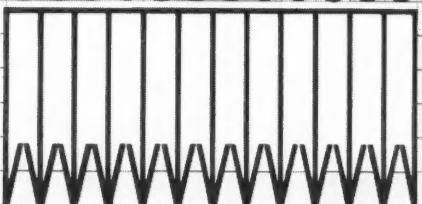
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California MEDICINE

OFFICIAL JOURNAL OF THE CALIFORNIA MEDICAL ASSOCIATION

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Volume 91

SEPTEMBER 1959

Number 3

Forensic Obstetrics

KEITH P. RUSSELL, M.D., Los Angeles

THE WORD *forensic* is derived from the Latin *forum*, for public place. Since the forum in ancient times was used for public discussion and debate, *forensic* has come to be applied to those matters subject to argument and debate. As used in obstetrics, the term is taken to mean principally "medicolegal" obstetrics; however, the meaning that that which is forensic in nature is subject to discussion should be retained. Although many lawyers and many courts would have us believe that certain rulings and decisions that have been handed down (as they pertain to medicine) are beyond debate, all physicians recognize that much of medical practice in the medicolegal sense is truly forensic in nature. Medicine is not an exact science—it is an art, dynamic and fluid in nature. Hence the law that is concerned with medicine can be no less static.

In recent years the practice of medicine has become increasingly influenced by the medicolegal considerations attendant upon the diagnosis and treatment of disease entities. Every patient seen by every physician carries potential legal action in some form—professional liability, disability evaluation, insurance eligibility and personal liability. It has been observed recently that 80 per cent of all current court actions require some type of medical testimony. The impact of the progressive awareness of these potentialities has altered the face and character of medical practice as it is carried on today.

Among the various social forces that have brought

• Some of the more important and current aspects of forensic obstetrics are, broadly,

1. Fulfillment of basic criteria in all cases of alleged traumatic abortion.
2. Utilization of therapeutic abortion review boards, as well as sterilization committees, in all hospitals, with the active support of such committees by all those physicians interested in advancing the art and practice of obstetrics.
3. Early and active joint study of professional liability problems by combined groups of physicians and lawyers in every community.

about these changes are the following ecologic factors:

1. Widespread lay publicity in recent years regarding medical subjects, surgical procedures and technical advances, as well as premature reports concerning research in progress.

2. Organized legal activity toward making the public aware of the personal and professional liability aspects of medical matters.

3. Increased application of the *res ipsa loquitur* doctrine ("the thing speaks for itself") in medical jurisprudence.

Subsidiary factors have also played a part—for example, an increased "insurance consciousness" on the part of the public, accelerated by the advent of compulsory motor-vehicle liability insurance and related trends.

In addition there has been a gradual deterioration in patient-practitioner relations, coincident with the increasing specialization in medicine which has

Chairman's Address: Presented before the Section on Obstetrics and Gynecology at the 88th Annual Session of the California Medical Association, San Francisco, February 22-23, 1959.

made the very nature of medical practice more impersonal. And finally, the public has all too often mistakenly come to believe in medicine as a rigid discipline, in which exact diagnosis and specific curative therapy can be carried out in every case.

It is the purpose of the present discussion to point out some of the basic *medical* considerations upon which obstetricians and gynecologists must rely in the management of certain problems carrying serious medicolegal implications. These considerations have grown out of knowledge gained in evaluating malpractice claims, both for the plaintiff and for the defendant, in sitting on abortion and sterilization boards and in reviewing studies of the medicolegal aspects of miscarriage, complications of pregnancy, and gynecological injuries to women.

TRAUMATIC ABORTION

Perhaps the disorder of this type with which we are most frequently faced is that associated with traumatic abortion. These problems come to us in four general categories: (1) automobile accidents, (2) emotional shock and psychic trauma, (3) industrial accidents, and (4) miscellaneous groups, such as falls, blows and bodily attack. In all of them the physician is confronted by the consideration and possible claim that such trauma has been the proximate cause of a subsequent abortion, or of a later complication of pregnancy. A typical case recently evaluated may be cited.

The patient was pregnant and had had a previous pregnancy that ended with abortion. The last normal period was April 5, 1958. She had had some spotting in May at the time of her expected period, but not enough to wear a pad. She had also had some nausea. On June 1, 1958, while the patient was sitting in her car waiting for a signal change, her car was struck from behind by another. She was shaken up and frightened and was bruised over the xiphoid process by the steering wheel. She was taken immediately to an emergency hospital, but no fractures were found. She did have some abdominal cramps, however, and was sent home to bed. Four days later she began to bleed moderately heavily. She was seen by her neighborhood physician, who advised dilatation and curettage, which was done in the hospital. The patient's attorney claimed that miscarriage resulted from the automobile accident.

It is obvious that pathological diagnosis of tissue removed is a prerequisite for evaluating such cases. All too frequently it is presumed that pregnancy was present, when in actuality such was never truly determined. Assuming, however, that in such instances the presence of pregnancy has been established, we may be guided in our approach to the medicolegal management of these problems by three basic rules, as modified from Fisher:²

1. The course of pregnancy must have been nor-

mal in all respects before the accident or trauma.

2. The conceptus or abortus must show no evidence of developmental abnormality.

3. Bleeding and abortion must occur within minutes or a few hours after the accident.

Unless all three of these criteria can be fulfilled, there must exist grave doubt in the individual case that accidental trauma has been a causative factor of proximate importance in the occurrence of subsequent abortion or pregnancy complication.

The question of emotional trauma or psychogenic shock is frequently introduced by plaintiffs' attorneys in these cases. The factual obstetrical evidence, as set forth in numerous studies such as those of Hertig and Sheldon,³ Eastman¹ and others, is strongly against the viewpoint that fright or psychic trauma can cause miscarriage. The same criteria cited above must be applied to such claims.

Closely allied to the medicolegal problems of traumatic abortion are those of accidental injuries of a gynecologic nature. The increased employment of women in all phases of industry in recent years has imposed new viewpoints in this field. To properly assess the likelihood of traumatic factors in the production of gynecologic damage, women who have been injured should be examined within 24 hours of the accident. McNeil⁴ rightfully emphasized that when gynecologic injury does occur as a result of accidental factors, there is positive evidence which relates it to the accident if in fact such a relationship exists. The burden of proof must be based upon direct and conclusive findings of tissue damage to the area. In this connection it must be noted that menstrual aberrations are not uncommon sequelae of physical and psychic injury. However, these are transitory and temporary in nature and are not significant unless demonstrable pathologic change can be detected upon pelvic examination.

Finally, the rule of evidence relating to proximate cause must be continually kept in mind in dealing with all cases of traumatic abortion and accidental gynecologic injury. This rule requires that physicians express their opinions on the basis of *reasonable medical probability*, rather than on the basis of possibility or speculation. Testimony of witnesses, expert or otherwise, merely that a described condition is "possible" or "might" exist as consequence of stated cause, does not support the conclusion that such condition exists in fact as result of this cause.

THERAPEUTIC ABORTION AND STERILIZATION

The performance of sterilization or of therapeutic termination of pregnancy has obvious medicolegal implications. The statutes of California, like those of 44 other states, require necessity to preserve the life of the mother as a legal basis for abortion. In

actual practice in this state, it must be noted, the exceptions provided in the statutes are commonly broadened to include preservation of the health of the woman, with tacit recognition that the probability of the delivery of a grossly defective child poses a serious threat to the physical and mental health of a pregnant woman.⁵

The development in recent years of hospital boards for review of therapeutic abortion and sterilization has become an important medicolegal safeguard in the management of these vexing problems.⁶ The sanction offered to such procedures when accredited by a board of from five to seven physicians far outweighs that existing when only one or two consultants are required. Regan^{7b} was unable to find any instance of legal action's being instituted when the review board procedure had been utilized, and was of the opinion that this method was the strongest medicolegal safeguard yet devised in protection of the physician and hospital confronted with problems of therapeutic abortion and sterilization.

The use of such boards would appear to be especially mandatory when dealing with the consideration of therapeutic abortion on fetal grounds, such as those in association with German measles and Rh incompatibility. Here again, basic criteria should be fulfilled before such cases may even be presented to a review board:

1. In the case of rubella—

a. The diagnosis of rubella in the mother must have been definitely by an internist, pediatrician or public health physician; "exposure" to German measles is insufficient for consideration.

b. The pregnancy must have been of less than ten weeks' duration when the infection occurred.

2. In the case of Rh incompatibility—

a. There must be a history of one or more stillbirths or immediate neonatal deaths due to this condition;

b. The husband must be homozygous.

If information regarding these prerequisites is doubtful or lacking, the case cannot reasonably be considered for possible therapeutic termination of pregnancy.

With regard to sterilization, it should be stressed for forensic reasons that all such procedures carry a small but definite failure rate. In the reported series in the literature, this rate ranges from as little as one-tenth of 1 per cent to as much as 7 per cent or more. In view of these facts, it is important that the physician protect himself by properly worded operative consent forms. A recommended form, as used on our own service, is one which states that the patient "*may* be rendered sterile" by the procedure. Eastman has offered the same admonition,

utilizing a permission form which refers to the sterilization operation simply as one which "*may* prevent further pregnancies."¹

OBSTETRICAL MALPRACTICE

Much has been said and written in the past few years on the subject of professional liability. Unfortunately, in the welter of claims, suits and publicized judgments, certain essential facts either have become so clouded as to be unrecognizable or have been completely forgotten. Paramount in this regard is the basic definition of malpractice, which is: "The failure on the part of a physician properly to perform the duty which devolves upon him in his professional relation to his patient, a failure which results in some injury to the patient." Thus, malpractice has two essential parts: First, that the physician *fails* to do his duty; second, that definite *injury* to the patient is the result of his failure.⁷ It is to be repeatedly emphasized that there is no professional liability unless the physician's negligence is the proximate cause of injury.

There are certain facts regarding malpractice in general which are of significance to the obstetrician:

1. The specialty of obstetrics-gynecology is exceeded only by those of surgery and orthopedics in the number of suits and claims filed;

2. Specialists are defendants over 50 per cent of the time, although they make up only 44 per cent of the physician population;

3. Sixty-five per cent of claims filed are in connection with surgical procedures, and 70 per cent of the alleged actions have taken place in hospitals;

4. Sixty per cent of the claimants are female and their average age is 35 years;

5. The median time of the occurrence of suits or claims in the practice of the average defendant physician is thirteen and one-half years, indicating that the young graduate just out of training is not necessarily more prone to malpractice actions.

A study of professional liability problems in obstetrics-gynecology, as in other specialties, has indicated that many actions have been filed because of misunderstanding or lack of sound medical advice on the part of plaintiffs' attorneys. In addition it has been suggested that a "conspiracy of silence" on these matters exists among doctors. To combat these twin problems, in many communities panels of experts available for use by plaintiffs' legal advisors are being set up under the aegis of joint committees of medical societies and bar associations.⁸ In the main, such panels have proved successful. My purpose in mentioning them is to urge support of their activities as this operation is expanded in other communities. Only by such support

can the *res ipsa loquitur* doctrine be relegated to its proper minor role in medical jurisprudence in our specialty.

This is not to state that malpractice does not exist in the medical world, for most certainly it does. However, my own experience in sitting on panels such as outlined above has indicated that in nine of every ten cases brought for evaluation, no professional liability existed as defined at the beginning of this discussion. In these situations, when all the facts have been studied, the panel consultant can often avert the filing of a claim or suit against the attending physician.

It would be desirable for our specialty organizations at the national level to be cognizant of these problems, to the extent that joint committees of obstetricians join with bar association representatives in the study of them. In this manner the proper application of basic medical principles as well as legal standards relating to rules of evidence, proximate cause and related doctrines can be brought to the individual physician and attorney in these spheres where each now has only fragmentary knowledge. With approaches such as this we can surely, even if slowly, reduce the role of malpractice forces in the practice of our specialty. Con-

tinued study and review are essential. The law department of the American Medical Association stated it well when it said, "Professional liability . . . is . . . not a legal problem exclusively, but is also a *medical* problem, and one which requires the same intensive study that the profession has devoted to the conquering of disease. . . ."

The Moore-White Medical Clinic, 511 South Bonnie Brae Street, Los Angeles 57.

REFERENCES

1. Eastman, N. J.: The plaintiff's attorney and obstetrics, Calif. Med., 85:346-352, Nov. 1956.
2. Fisher, R. S., in Rosen, H.: Therapeutic Abortion, Julian Press, Inc., New York, p. 4.
3. Hertig, A. T., and Sheldon, W. H.: Minimal criteria required to prove *prima facie* cause of traumatic abortion, Ann. Surg., 117:596-606, April 1943.
4. McNeil, R. J.: Accidental injuries to women, Calif. Med., 83:30-33, July 1955.
5. Russell, K. P.: Therapeutic abortions in California in 1950, West. J. Surg., 60:497-502, Oct. 1952.
6. Russell, K. P.: Therapeutic abortion in a general hospital, Am. J. Obst. and Gynec., 62:434-438, Aug. 1951.
7. (a) Regan, L. J.: Doctor and Patient and the Law, C. V. Mosby Co., St. Louis, 3rd ed., p. 17. (b) Personal communications.
8. Sadusk, J. F., Jr.: Expert witness and advisory panels, J.A.M.A., 168:2121-2123, Dec. 20, 1958.

California Medical Association Medical Motion Pictures

DAYTIME FILM SYMPOSIUMS, like those that were so popular during the 1959 Annual Session of the California Medical Association, are being planned for the 1960 meeting. Evening film programs will be planned for physicians, their wives, nurses and ancillary personnel.

Authors wishing to show films should send their applications to Paul D. Foster, M.D., California Medical Association, 2975 Wilshire Boulevard, Los Angeles 5. All authors are urged to be present, as there will be time allotted for discussion and questions from the audience after each film.

Tentative plans are being made for Symposia in the following fields: Pediatrics, Diagnostic Features of Cancer, Emergencies in Medicine, Anesthesiology for General Use, New Advances in Medicine and New Methods in Surgery.

Films that would fit into programs in one of these fields would be especially appreciated.

Deadline is October 1, 1959.

Hyperventilation Syndrome

A Clinical and Physiological Evaluation

BERNARD I. LEWIS, M.D., Palo Alto

MOST PHYSICIANS are quite familiar with the isolated attack of acute hyperventilation that is characterized by dramatic overbreathing and classically culminates in tetany. Although terrifying to the patient, and almost equally alarming to any onlooker, these attacks are usually brief and without serious medical sequelae. Recently we have come to recognize a chronic hyperventilation pattern that appears to be far more common, far more disabling but, paradoxically, less well known than the acute variety.^{5,6,7,8} This report will present an analysis of 250 patients with hyperventilation syndromes and will emphasize the clinical characteristics and course of this chronic hyperventilation pattern.

As Table 1 indicates hyperventilation was psychogenic in origin in about 70 per cent of the patients in this series, with almost three times as many women as men falling in this category. There was an organic basis in only 2 per cent of the cases, usually infections and/or intoxications of the central nervous system.^{1,10} In the remaining 28 per cent, designated as "mixed," organic and psychological factors were jointly responsible. In these two latter groups the sexes were about equally involved.

There are symptoms and signs referable to most body systems as a consequence of the diffuse biochemical and physiological changes resulting from overbreathing. The most prominent of the clinical features are listed in Table 2. Out of this welter of alarming bodily sensations the patients usually tend to focus on but a few, most often on symptoms referable to the cardiovascular or nervous system, and become exceedingly fearful that they are experiencing either a "heart attack" or a "stroke." An analysis of the chief or presenting complaints (see Table 1) reveals that over one half of the patients had concentrated on cardiovascular symptoms, and another one fifth on neurological symptoms, to the relative exclusion of the many other bodily changes that had occurred at the same time. Curiously, respiratory symptoms were not particularly prominent although changes in respiratory behavior were usually evident to any observer.

From the Section of Internal Medicine, Palo Alto Medical Clinic and the Department of Medicine, Stanford University School of Medicine.

Presented before the Section on Internal Medicine at the 88th Annual Session of the California Medical Association, San Francisco, February 22 to 25, 1959.

• There is a chronic hyperventilation syndrome which is much more common, of greater medical significance and far more difficult to diagnose than the better-known acute hyperventilation attack. This chronic syndrome tends to mimic grave organic disease with which it frequently is associated or superimposed.

Studies on 250 patients with chronic hyperventilation patterns revealed the rapidity with which biochemical and physiological changes can occur and the characteristics of the resultant symptoms and signs, with particular reference to the heart and lungs.

Once the diagnosis is suspected and appropriately confirmed, it is possible to "cure" over 70 per cent of such patients by means of simple therapeutic measures.

With hyperventilation there is a rapid fall in arterial carbon dioxide tension (pCO_2) and rise in pH and, in turn, a reduction in cerebral blood flow and in the frequency of the brain waves. When the brain waves slow to 5 cycles per second or less some disturbance of conscious awareness usually results, ranging all the way from simple faintness to complete loss of consciousness.³ There is a concurrent increase in neuromuscular irritability, likely related to rapid changes in serum potassium and ionized calcium concentration that are believed to occur with these abrupt shifts in arterial carbon dioxide tension and pH.⁸ These are the factors that underlie the peripheral and circumoral paresthesias so characteristic of this syndrome, and the accompanying muscular tremors, spasms and aches. Occasionally, and presumably as the result of hysterical mechanisms, these peripheral paresthesias and myalgias are asymmetrical and may even be unilateral.^{6,8} These central and peripheral neurological phenomena are extremely alarming to the patient, who fears he is either "losing his mind" or on the verge of a "stroke."

By direct action on the blood vessel wall, the rapid reduction in arterial carbon dioxide tension decreases the peripheral vascular resistance and thus lowers the arterial blood pressure.² This and the associated shift in electrolyte and acid-base balance, bear importantly on the impressive tachycardia, frequent arrhythmia and perplexing electrocardiographic changes that commonly occur with hyper-

TABLE 1.—Clinical Data on 250 Patients with Hyperventilation Syndrome

Pathogenesis	No. of Patients	Sex		Presenting Syndrome					
		M	F	CV	GI	N	MS	R	Gen
Psychogenic	176	49	127	88	8	39	8	11	22
"Mixed"	69	31	38	42	1	10	6	5	5
Organic	5	3	2	4	1
Total	250	83	167	130	9	53	15	16	27

CV = Cardiovascular; GI = Gastrointestinal; N = Neurological; MS = Musculoskeletal; R = Respiratory; Gen = General.

ventilation.^{7,8,11} Precordial pain, in the form of recurring sharp twinges or a more prolonged dull discomfort, is another prominent feature of this syndrome and has been correlated on various occasions with the onset of cardiac arrhythmia,⁴ spasm of the diaphragm,¹² prolonged intercostal muscle spasm and gastric distension.⁸

To the patient these symptoms often suggest serious heart disease and, as our experience has indicated, the physician is too frequently misled as well, particularly when confronted by objective changes in the heart rate, rhythm and electrocardiogram.

Patients with the chronic hyperventilation syndrome present clinical pictures of variable duration and intensity which in general may resemble many chronic illnesses. At first glance the clinical features may seem non-specific; often they will suggest a psychogenic process. It is with the "mixed" cases in particular that sins of omission or commission are likely to occur. Too often the total illness is ascribed to either the organic or the psychogenic component. The inevitable result here is inadequate and improper treatment, usually with prolonged disability and occasionally with more serious consequences.

DIAGNOSTIC CLUES

The course of the chronic hyperventilation pattern tends to be interrupted periodically by recurring acute exacerbations that resemble in many ways the acute syndrome. These acute exacerbations mainly occur during the day and rarely if ever will awaken a person from a sound sleep. Patients may comment at first on nocturnal attacks, but inquiry usually will elicit that symptoms began at times the patient was partially awake such as soon after retiring or just before fully waking in the morning.

These acute exacerbations are not clearly correlated with physical exertion even though, on initial questioning, the patients may so suggest. Close checking will usually reveal that the symptoms began after rather than during exertion, often at the end of a tiring, tension-filled day.

Another feature, briefly mentioned earlier, is the patient's curious lack of awareness of his overbreathing or, when he is aware of it, his usual

TABLE 2.—Multisystem Involvement in Hyperventilation Mechanisms

1. NEUROLOGICAL:

A. Central: Disturbances of Consciousness—Faintness, dizziness, unsteadiness, impairment of concentration and memory, feelings of unreality, "losing mind," complete loss of consciousness (infrequent)

B. Peripheral: Paresthesias: Numbness, tingling and coldness of fingers, face and feet

2. MUSCULOSKELETAL:

Diffuse and/or localized myalgia and arthralgia, tremors and coarse twitching movements, carpopedal spasm and generalized tetany (infrequent)

3. RESPIRATORY:

Cough, chronic throat "tickle," shortness of breath, atypical "asthma," tightness in or about the chest, sighing respiration, excessive yawning

4. CARDIOVASCULAR:

Palpitations, "skipped beats," tachycardia, atypical chest pains—sharp precordial twinges, dull precordial or lower costal ache—variable features of vasomotor instability

5. GASTROINTESTINAL:

Oral dryness, globus, dysphagia, left upper quadrant or epigastric distress, aerophagia, belching, bloating and flatulence

6. PSYCHIC:

Variable anxiety, tension and apprehension, inappropriate pseudocalmness (hysterical subjects)

7. GENERAL:

Easy fatigability, generalized weakness, irritability and chronic exhaustion, frightening dreams, sleep disturbances

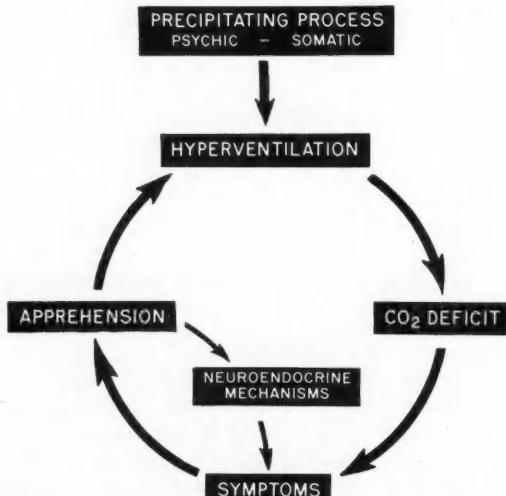


Chart 1.—Sequence of events characterizing hyperventilation syndrome.

insistence that it was a *result* of the attack and did not develop until *after* the episode was well under way. The basis of this belief and a schematic representation of the sequence of events that characterizes the hyperventilation syndrome is presented in Chart 1.

Whatever the nature of the precipitating process,

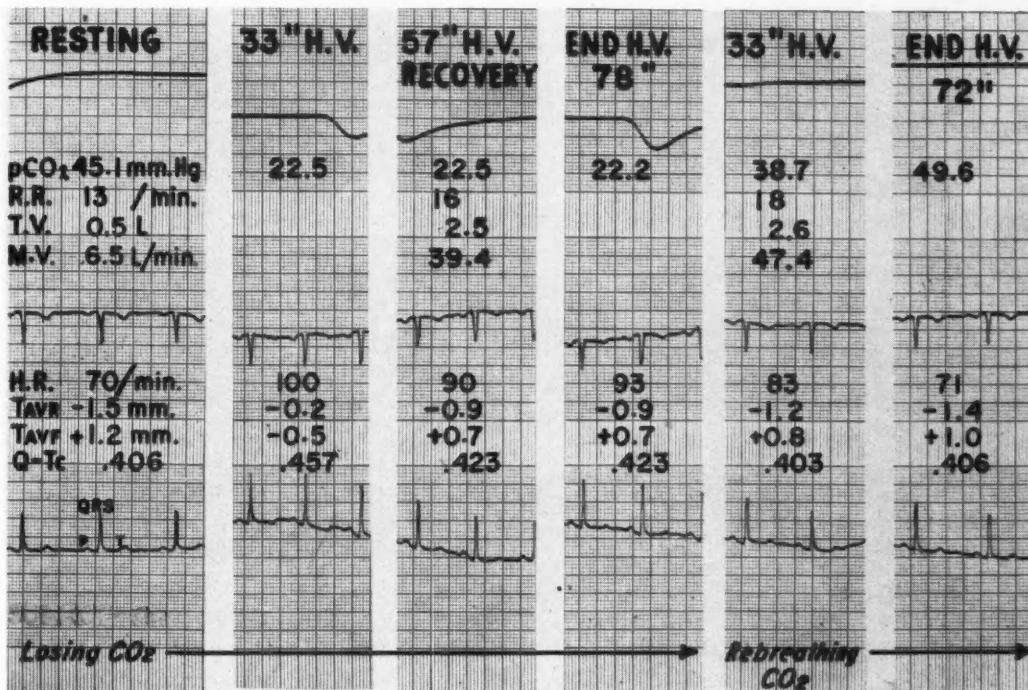


Figure 1.—Representative sections from record of normal subject during standard H.V. experiment. H.V. with rapid reduction in pCO_2 (viz. "Losing CO_2 ") results here in maximum electrocardiographic changes at 33 seconds and then, despite maintained H.V. and low pCO_2 , in return of cardiac indices toward normal at 57 seconds ("recovery"). When pCO_2 not reduced (viz. "Rebreathing CO_2 ") no significant cardiac phenomena occur. (See text for more detailed discussion.)

Abbreviations: H.V. = Hyperventilation; R.R. = Respiratory rate; H.R. = Heart rate; pCO_2 = Carbon dioxide tension; T.V. = Tidal volume; M.V. = Minute volume; QTc = QT interval corrected for heart rate.

the initial link in the pathogenetic chain is the overbreathing. This results in a reduction in arterial carbon dioxide tension and a concurrent rise in pH. Critical changes in these indices can be achieved in the first 30 seconds of hyperventilation even though a further 60 to 90 seconds may be needed for maximal changes.⁸ These primary changes appear to initiate the widespread biochemical and physiological phenomena that follow and are responsible for the multiple clinical manifestations. It is our impression that up till this point most patients are preoccupied with various disturbing details related to the precipitating process and thus are not at all aware of their respiratory aberrations. It is only when the intermediate mechanisms have been called into play that the alarming symptoms develop and intrude into their conscious awareness. Then, for the first time, they may notice their rapid, labored breathing and thus come to insist that their respiratory changes followed rather than preceded the onset of their acute attacks. Patients are usually terrified by the unexpected impact of these alarming symptoms, and their fear, as depicted in Chart 1, tends to accentuate and prolong the overbreathing and

simultaneously, we suspect, to bring about endocrine and autonomic nervous system responses. This is the inner neuroendocrine pathway noted on the diagram, which, as will be described later, often contributes importantly to the total cyclic process.

LABORATORY STUDIES

Detailed presentation of the cardiac, pulmonary and acid-base balance data obtained during our hyperventilation studies already has been reported.^{7,8} In brief, we studied a group of normal subjects and a group of "chronic hyperventilators" during two similar periods of voluntary overbreathing in an identical laboratory setting. The subjects were placed in a closed breathing system that included an infrared carbon dioxide analyzer to provide us with a rapid and continuous record of the changing alveolar carbon dioxide tension which, for all practical purposes, is identical to the arterial carbon dioxide tension. We obtained continuous spirometric and electrocardiographic data at the same time and, in certain subjects at suitable intervals, we drew femoral arterial blood for pH determination. During

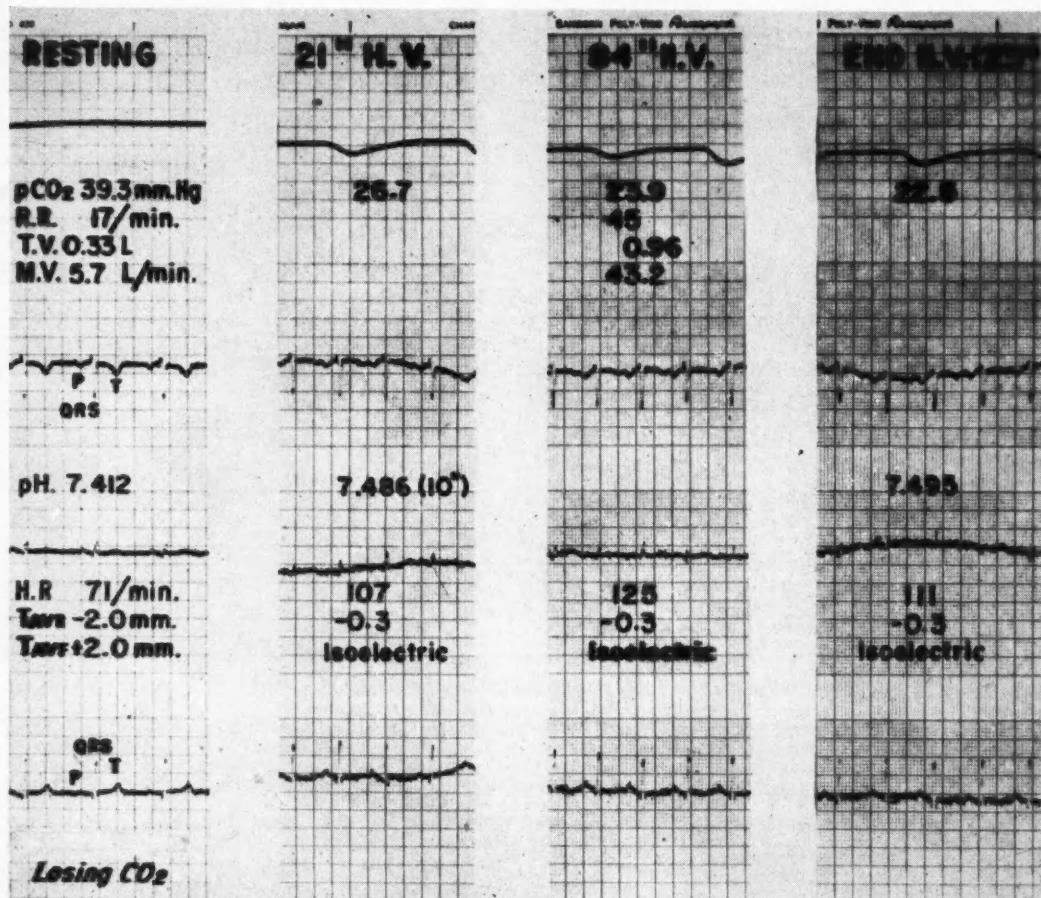


Figure 2.—Representative sections from record of "hyperventilator" during standard H.V. experiment when pCO_2 abruptly reduced. Typical electrocardiographic changes in H.R. and T waves occur in 21 seconds and the arterial pH rises impressively within 10 seconds. No evidence of cardiac "recovery" is seen. (See text for more detailed discussion.)

Abbreviations: H.V. = Hyperventilation; R.R. = Respiratory rate; H.R. = Heart rate; pCO_2 = Carbon dioxide tension; T.V. = Tidal volume; M.V. = Minute volume.

one period of voluntary hyperventilation a canister of soda lime was introduced into this closed respiratory system which absorbed the expired carbon dioxide and expedited the drop in alveolar carbon dioxide tension. This canister was absent during the second period of overbreathing so the subject was able to rebreathe his expired gases, thus inducing a progressive rise in alveolar carbon dioxide tension. These two periods of hyperventilation were therefore identical except for the opposing changes in alveolar carbon dioxide tension.

Figure 1 shows representative sections from the continuous record of a typical experiment on a normal subject. The section on the far left presents the resting or control data. The upper sloping horizontal line represents the alveolar carbon dioxide tension, which in this case was 45 mm. Hg. Below this are noted the respiratory rate, tidal and minute

volumes and pertinent electrocardiographic data. Moving from left to right the next three sections illustrate the cardiopulmonary changes occurring during acute hyperventilation (in the presence of the canister of soda lime). The carbon dioxide tension at 33 seconds confirms the rapidity with which such reductions can be achieved. Little further reduction occurred after 78 seconds of over-breathing. The mean respiratory data for the entire period noted in the 57-second section confirm the increased pulmonary ventilation that occurred.

The electrocardiographic tracings show that at 33 seconds the heart rate increased from 70 to 100 beats per minute; the TAVR was almost isoelectric at that time and the TAVF had been converted from a positive deflection of 1.2 mm. to a negative deflection of 0.5 mm.; and the Q-Tc had lengthened to 0.457. (The accepted upper limit of normal for the

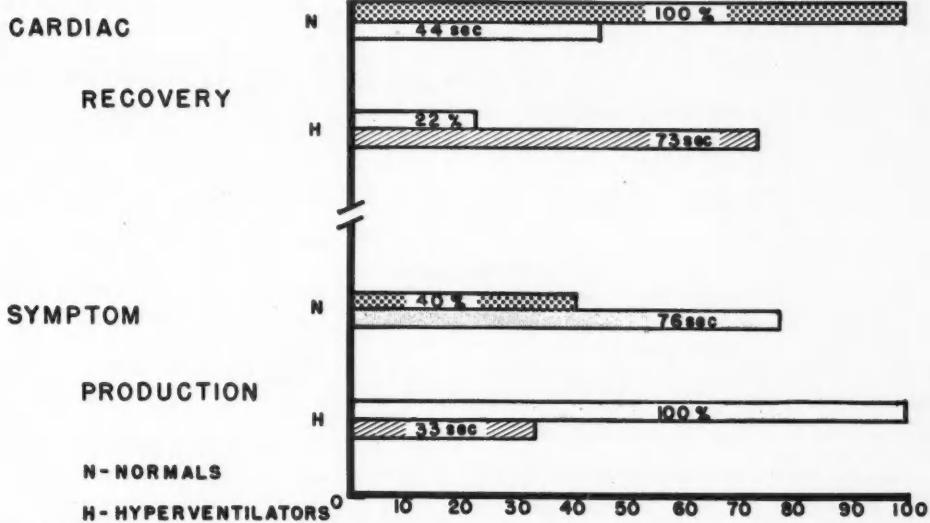


Chart 2.—Response patterns to voluntary hyperventilation. Upper section of chart shows that all normals (N) achieved partial or complete electrocardiographic "recovery" during H.V. at mean time of 44 seconds in contrast with 22 per cent of "hyperventilators" (H) who required mean time of 73 seconds. Lower section of chart shows that typical H.V. symptoms developed in all "hyperventilators" early (mean time 33 seconds), whereas only 40 per cent of normals had mild symptoms and these occurred much later (mean time 76 seconds).

Q-Tc is 0.425.) This increase is indicative of an abnormal prolongation of electric systole at the expense of diastole, which is the reverse of what one would normally expect with an acceleration in heart rate.

It is evident that at 57 seconds of hyperventilation, despite the continued overbreathing and reduced alveolar carbon dioxide tension, the tachycardia was decreasing, the T-wave changes were reverting and the Q-Tc had returned to just within normal range. These phenomena were regarded as indicative of "cardiac recovery" on the assumption that some degree of cardiovascular compensation for the reduced carbon dioxide tension had been achieved. These "recovery" phenomena persisted to the end of the hyperventilation period even though the alveolar carbon dioxide tension diminished a little more.

The two final sections on the right represent comparable stages of the second period of hyperventilation when, with the soda lime canister absent, the subject rebreathed his own expired gases which slowly increased the alveolar carbon dioxide tension. In these two sections, despite an even greater respiratory exchange than during the first period, no significant electrocardiographic changes occurred.

This sequence of events was typical of all the normal subjects, which tends to confirm the thesis that it is the rapid fall in arterial carbon dioxide tension that induces these electrocardiographic phenomena, rather than the increased ventilation or

heart rate per se or the changes in position of the heart and/or the diaphragm.

When the patients with chronic hyperventilation were put through the same experimental procedures, they had similar and often more striking electrocardiographic changes but in them there was virtually no evidence of the "cardiac recovery" phenomena. This apparent inability to compensate electrocardiographically is clearly demonstrated in Figure 2, which demonstrates as well the rapidity with which significant changes in arterial pH can occur in a person who hyperventilates. The pH rose from 7.412 at rest to 7.486 in 10 seconds of overbreathing and increased more slowly thereafter to 7.495 at 123 seconds. This illustrates the degree of respiratory alkalosis that can occur with even brief hyperventilation.

The bar graphs in the upper half of Chart 2 show that in all the normal subjects the "cardiac recovery" phenomena occurred, the mean time for the group being 44 seconds. Only 22 per cent of the "hyperventilators" showed a mild tendency in this direction, and in them it occurred at an average time of 73 seconds. The majority lacked any capacity to adjust or compensate in this way. The lower bar graphs indicate that 40 per cent of the normal subjects developed characteristic but rather mild hyperventilation symptoms after a mean time of 76 seconds of overbreathing. The hyperventilators on the other hand all developed symptoms that were quite severe and began on the average at 33 seconds.

The significance of these data is far from clear.

Our current impression is that the hyperventilators have become "conditioned" in a sense, so that they are able to reduce their carbon dioxide tension extremely rapidly. Paradoxically, however, they do not seem able to handle effectively the physiological sequelae of these abrupt variations of arterial carbon dioxide tension.

DIAGNOSIS

Although the acute hyperventilation syndrome is well known, the more common chronic pattern, with its insidious onset and tendency to simulate serious organic disease, is not well enough appreciated. Diagnostic and therapeutic errors are thus quite common. In only one of the first 150 patients in the present series with the chronic syndrome was the possibility of a hyperventilation mechanism suspected.⁸

In attempting earlier to describe the clinical features, I emphasized various characteristics that might serve as diagnostic clues. It should be clearly stated, however, that these particular characteristics are not always immediately apparent and often have to be carefully elicited from the many symptoms in the background that may be considered by the patient as relatively minor.

When one suspects the presence of a hyperventilation mechanism the diagnosis must be confirmed by reproducing a typical acute exacerbation with voluntary overbreathing. Persons who hyperventilate will have classic exhibition of their characteristic symptoms within the first 60 seconds of overbreathing, although a full-fledged attack may take a little longer. A minimum of 2 and preferably 3 minutes of overbreathing must be performed before a test can be considered negative. Should characteristic symptoms be reproduced, a medium (6 pound) paper sack is placed firmly over the patient's nose and mouth and he is requested to breathe slowly from it. This expedites the prompt elevation of the arterial carbon dioxide tension, and the patient's symptoms begin to subside within 30 to 60 seconds. He is permitted to remove the paper sack when he feels comfortable, and usually he does so voluntarily within 2 to 3 minutes. Occasionally patients who have demonstrated a decided secondary response pattern of apprehension may fail to react when voluntarily overbreathing in the reassuring environment of the physician's office. In such situations I have found it necessary to set the psychological stage before attempting to reproduce a typical acute attack.

THERAPY

Excluding the relatively few patients with an organic basis for their hyperventilation syndrome, the initial therapeutic step, when such a pattern is

suspected, is to attempt to reproduce the characteristic symptoms with voluntary overbreathing. When successful this both alarms and impresses the patient, and the rapid relief obtained with the paper sack is proportionately reassuring. This experience often evokes an emotional catharsis that in turn brings about temporary symptomatic relief while often shedding additional light on the nature of the underlying problems. This may provide the physician with valuable material for future discussion that would otherwise be unavailable to him.

In such cases, this experience is vital to the development of an effective physician-patient relationship. It demonstrates to the patient the reality of his symptoms on the one hand and at the same time reveals their emotional origin to him. With suitable explanation and reassurance he is able to appreciate the benign nature of the disorder, which helps to dispel his fears of serious disease and permits a more realistic approach to the basic problems. The average physician is quite capable of exploring and aiding in the solution of most of these problems.^{6,9} Apparent cure was brought about in approximately 70 per cent of the patients in the present series. Approximately 20 per cent achieved partial and/or temporary improvement, requiring periodic reassurance from time to time. The remaining 10 per cent were not helped and were found to be patients with severe depressive or hysterical patterns who needed prolonged psychiatric treatment.

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1. Brown, E. B., Jr.: Physiological effects of hyperventilation, *Physiol. Rev.*, 33:445, 1953.
2. Burnum, J. F., Hickam, J. B., and McIntosh, H. D.: The effect of hypocapnia on arterial blood pressure, *Circulation*, 9:89, 1954.
3. Engel, G. L., Ferris, E. B., Jr., and Logan, M.: Hyperventilation: Analysis of clinical symptomatology, *Ann. Int. Med.*, 27:683, 1947.
4. Friedman, M.: Studies concerning the etiology and pathogenesis of neurocirculatory asthenia. III. The cardiovascular manifestations of neurocirculatory asthenia, *Am. Heart J.*, 30:478, 1945.
5. Lewis, B. I.: The hyperventilation syndrome, *Ann. Int. Med.*, 38:918, 1953.
6. Lewis, B. I.: Chronic hyperventilation syndrome, *J.A.M.A.*, 155:1204, 1954.
7. Lewis, B. I., Seebom, P. M., Hamilton, W. K., January, L. E., and Wheeler, P.: Continuous biophysical recording techniques in the study of cardiopulmonary phenomena accompanying psychogenic hyperventilation, *Psychosom. Med.*, 17:479, 1955.
8. Lewis, B. I.: Hyperventilation syndromes: Clinical and physiologic observations, *Postgrad. Med.*, 21:259, 1957.
9. Lewis, B. I.: Psychosomatic disorders and the non-psychiatrist, *J.A.M.A.*, 150:776, 1952.
10. Ryder, H. W., Shaver, M., and Ferris, E. B., Jr.: Salicylism accompanied by respiratory alkalosis and toxic encephalopathy, *N.E.J.M.*, 232: 617, 1945.
11. Thompson, W. P.: The electrocardiogram in the hyperventilation syndrome, *Am. Heart J.*, 25:372, 1943.
12. Wolf, S.: Sustained contraction of the diaphragm: The mechanism of a common type of dyspnea and precordial pain (Abstr.), *J. Clin. Investigation*, 26:1201, 1947.

Surgical Management of Dissecting Aneurysm

The Use of a Simplified Bypass

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FEW MEDICAL CATASTROPHES are more dramatic in onset, more fulminating in course or more rapidly fatal than dissecting thoracic aneurysm. With our gradually aging population the incidence of this disease is increasing; it is estimated to occur once in every 10,000 hospital admissions.⁵ In recent years major advances have been made in vascular operations, including the surgical management of dissecting thoracic aneurysms. Thus, successful treatment of the disease depends in large part on making a correct clinical diagnosis. The need for early diagnosis is apparent from Hirst's statistics on the survival of patients with this disease.⁵ He and his colleagues found that 21 per cent of patients with dissecting aneurysms were dead within 24 hours of the time dissection began, half within the first four days, three-fourths within the first two weeks and 91 per cent by the end of six months.

The diagnosis is often difficult, especially if the possibility of dissecting aneurysm is not considered. The most classical finding is severe chest pain arising suddenly in a patient with known hypertension. Spread of pain into the upper extremities occurs infrequently. Extension of the dissection characteristically produces symptoms in the abdomen and lower extremities. These may consist of abdominal rigidity or even ischemic changes of the lower extremities. The most common incorrect diagnoses that are entertained are myocardial infarction, perforated ulcer and pancreatitis. Electrocardiographic changes usually show evidences of left ventricular hypertrophy or left axis deviation without the characteristic changes of acute myocardial infarction.

Once dissecting aneurysm is suspected, radiographic studies are particularly useful in substantiating the diagnosis. The classical findings, usually seen on routine films, consist principally of widening of the aortic knob or suprarecardiac shadow. This sign is particularly useful when previous films of the chest are available for comparison. The false passage produced by the dissecting hematoma may be seen as a double contour in the arch of the aorta, especi-

ally if intimal calcification is present. These changes may be accentuated by sectional roentgenography.

* The alarming mortality in cases of dissecting aneurysm of the aorta has stimulated the development of a surgical technique which results in re-entry of the dissecting channel. During the operative procedure prolonged cross-clamping of the aorta is necessary. While hypothermia will provide protection to the spinal cord and kidneys during reasonable periods of aortic occlusion it will not relieve back pressure on the left ventricle.

By the use of a simple bypass blood is drained from the left atrium into a reservoir and then pumped into the lower aorta via the femoral artery. Thus an adequate supply of oxygenated blood is delivered to the spinal cord and kidneys distal to the occlusion while the left ventricular pressure is decompressed to normal levels. The volume of the shunted blood is simply controlled by monitoring the brachial artery pressure with a cuff sphygmomanometer. This simplified bypass has permitted successful repair of a dissecting aneurysm with complete occlusion of the thoracic aorta for a period of two hours.

ally if intimal calcification is present. These changes may be accentuated by sectional roentgenography.

With the exception of a few scattered reports of surgical attempts to correct this lesion, little therapeutic success was recorded before DeBakey's report in 1955.² DeBakey's procedure is to do by artifice what may occur accidentally to permit an untreated patient to survive, namely the creation of a method for re-entry to the dissecting channel. The re-entry is fashioned by dividing the thoracic aorta, oversewing the distal double lumen, and creating a window between the proximal two channels. The aorta is then reconstructed by an end-to-end anastomosis.

Cross-clamping of the thoracic aorta cannot be performed with impunity. Permanent damage to the cord and kidneys will often result if the thoracic aorta is occluded more than 20 minutes. Cross-clamping of the thoracic aorta also subjects the left ventricle to severe strain, which is poorly tolerated in arteriosclerotic heart disease. In addition, the increase in root pressure may cause a fatal retrograde dissection with hemopericardium.³ While hypothermia will permit considerably longer periods of cross-clamping of the thoracic aorta, it does not diminish the back pressure on the left ventricle. To

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Submitted March 23, 1959.

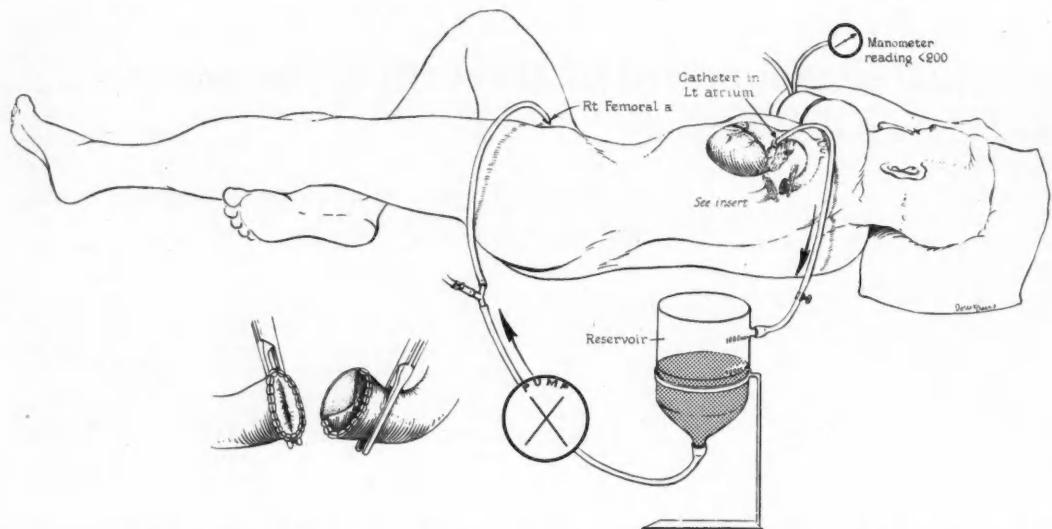


Figure 1.—Diagram showing the details of bypass used. Insert demonstrates the operative technique employed to repair the aorta.

circumvent these difficulties Cooley and colleagues devised an ingenious extracorporeal bypass of oxygenated blood from the left atrium to the femoral artery.¹

In the first two patients in whom we used this technique, several difficulties were encountered. In the first patient there was difficulty in ascertaining the rate of flow through the closed circuit, and in the second patient we did not recognize the necessity of maintaining a root pressure at least equal to the normal blood pressure. In such an event coronary insufficiency is created, which is particularly poorly tolerated in patients of this type. The method we use now is that of Cooley with several modifications. A No. 24 (French) plastic catheter is introduced into the left atrium and is connected by plastic tubing to a siliconized reservoir. A sigmamotor pump is used to return the blood through a tube from the reservoir to the femoral artery. The rate of flow is governed as follows. The atrial line to the reservoir is adjusted by a stopcock so that the arm cuff pressure is maintained at least equal to the patient's normal systolic pressure (Figure 1) or below 200 mm. of mercury. The arm pressure is checked every five minutes by the anesthetist so that the flow from the atrium can be appropriately varied by regulating the stopcock. In this way excessive back pressure on the left ventricle is prevented, while adequate perfusion of the coronary arteries is insured by avoiding an uncontrolled run-off from the left atrium, which would produce a subnormal aortic root pressure. The quantity of blood in excess of that necessary to maintain the normal systolic root pressure is removed from the left atrium

and flows into the reservoir. The pump speed is regulated so that the starting priming level in the reservoir is kept at a constant level. From the reservoir the blood passes through the pump back into the distal aorta by way of the femoral artery. No attempt is made to monitor the femoral artery pressure, as more than adequate perfusion of the kidneys and distal cord is provided by the amounts of blood necessary to keep the aortic root pressure from rising precipitously when the aorta is cross-clamped. In this way the spinal cord and kidneys are nourished adequately for indefinite periods of aortic cross-clamping. General body hypothermia of 32° to 33° C. provides additional safety to the spinal cord and kidneys and permits the bypass to be carried out at lower flow rates.

REPORT OF A CASE

A 57-year-old white man was admitted to the San Mateo Community Hospital on September 6, 1958, with complaint of severe back pain with radiation to the costovertebral angles bilaterally. Eighteen hours previously, while driving to work, he first experienced severe back pain, which soon thereafter radiated vaguely into the abdomen. He also had noted shortness of breath at that time. He was first admitted to another hospital. There the blood pressure was observed to be 190/110 mm. of mercury. He was pale, sweaty, and had a boardlike abdomen. A diagnosis of perforated peptic ulcer or pancreatitis was considered. The serum amylase content was within normal limits and no abnormalities were noted in fluid aspirated from the peritoneum. An

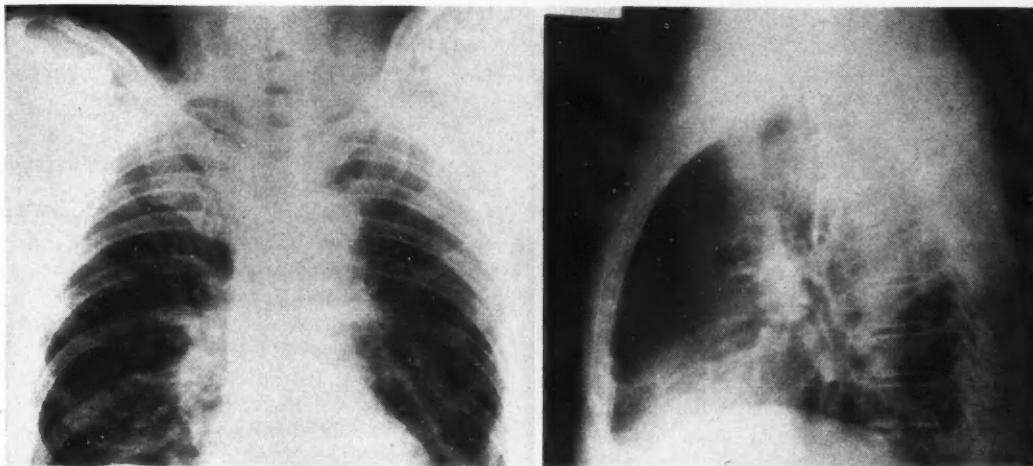


Figure 2.—Left, film of chest on entry, interpreted as showing slight aneurysmal tortuosity of the arch and proximal descending thoracic aorta. Right, lateral film with similar findings.

electrocardiogram was consistent with left ventricular strain; and a roentgenogram of the chest showed slight aneurysmal tortuosity of the thoracic aorta with slight dilatation of the arch and proximal descending thoracic aorta (Figure 2). The patient was observed overnight and then transferred to the San Mateo Community Hospital for further observation. The clinical diagnosis at the time was pancreatitis.

Upon physical examination at the San Mateo hospital, blood pressure was observed to be 160/120 mm. of mercury. There were no cardiac murmurs, and no abnormal pulsations or peripheral murmurs were observed. Tenderness to deep pressure in the epigastrium was noted. The remainder of the physical examination was within normal limits.

Laboratory studies revealed moderate leukocytosis, hemoglobin content of 12 gm. per 100 cc. and a hematocrit of 40. The reaction to a test of the urine for sugar was 2 plus. No abnormality was noted in the spinal fluid.

Since the amylase content was within normal limits a diagnosis of carcinoma of the pancreas was considered. Observation was continued and on September 12, 1958, x-ray films of the chest taken soon after a recurrent attack of the severe retrosternal and back pain revealed progression in the diameter of the thoracic aortic aneurysm (Figure 3), particularly evident when compared to films that had been taken on February 15, 1955 (Figure 4). It was at this time that the diagnosis of a dissecting thoracic aneurysm was first considered.

On September 14, 1958, under light general anesthesia, hypothermia to 32 degrees C. was induced and thoracotomy was performed through a left postero-lateral incision, with resection of the fifth rib. Preliminary exploration revealed a mass arising in the proximal arch at the origin of the innominate

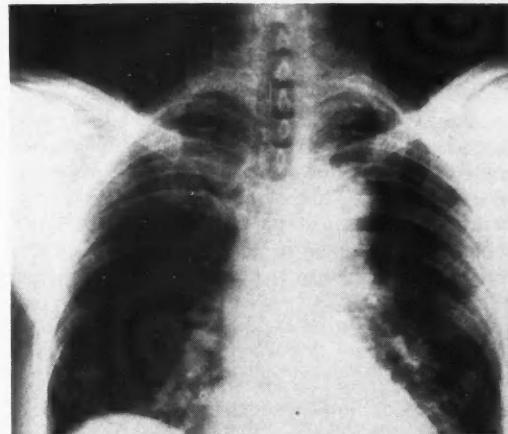


Figure 3.—Film of chest taken September 12, 1958, after a severe recurrent attack of retrosternal pain.

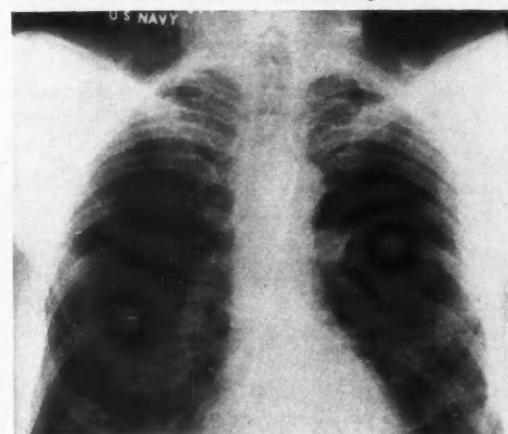


Figure 4.—Routine film of chest taken three years before illness reported herein.

artery, having its greatest diameter just beyond the left subclavian artery. The entire thoracic aorta was involved with the dissecting hematoma to the level of the diaphragm. The aortic arch and proximal descending thoracic aorta were mobilized by dissection.

Heparin was administered intravenously, 3 mg. per kilogram. The plastic catheter leading to the blood reservoir was inserted into the left atrium through the left auricular appendage and was affixed with a purse-string suture. The efferent catheter from the bypass pump was attached to a cannula in the left common femoral artery. With the application of the noncrushing occluding clamps to the thoracic aorta, the left heart bypass was started. The rate of bypass was regulated to maintain the right arm cuff pressure at 190 mm. of mercury. No attempt was made to monitor the femoral artery pressure. The pump speed was adjusted to keep the reservoir level constantly at the starting mark.

The thoracic aorta was transected just distal to the origin of the left subclavian artery. The dissecting hematoma involved the entire circumference of the wall. On release of the distal clamp only slight retrograde blood flow occurred from the false lumen. Large clots and a small amount of blood were aspirated from the false passage and then the dissected layers were approximated by a continuous circular suture. A window encompassing two-thirds of the circumference was cut in the intima above, and the remainder of the wall was then sutured to obliterate the false passage. The ends of the aorta were then anastomosed. The partial cardiac bypass was utilized for 90 minutes while the aorta was cross-clamped.

The postoperative course was uneventful and the patient left the hospital on the seventeenth postoperative day. The blood pressure was 190/130 mm. of mercury. He returned to work as a steamfitter on December 8, 1958. When last seen, on March

19, 1959, he was doing very well; he was asymptomatic, his blood pressure had not changed, and he was working and living a normal life.

DISCUSSION

This case demonstrated very well the difficulties encountered in arriving at a correct early diagnosis. It was only after several successive chest films were compared that the classical widening of the supra-aortic shadow was noted and a diagnosis of dissecting aortic aneurysm was made. This case also demonstrated how the use of a simplified left atrium-to-femoral artery bypass permits periods of extended cross-clamping of the thoracic aorta during which the dissecting channel can be converted back into the central aortic lumen.

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ADDENDUM

One of the authors (JEC) has recently successfully employed this simple bypass in the repair of a traumatic aortic aneurysm with complete occlusion of the thoracic aorta for a period of two hours.

REFERENCES

1. Cooley, D. A., DeBakey, M. E., and Morris, G. C., Jr.: Controlled extracorporeal circulation in surgical treatment of aortic aneurysm, *Ann. Surg.*, 146:473, 1957.
2. DeBakey, M. E., Cooley, D. A., and Creech, O., Jr.: Surgical considerations of dissecting aneurysm of the aorta, *Ann. Surg.*, 142:586, 1955.
3. DeBakey, M. E., Cooley, D. A., Crawford, E. S., and Morris, G. C., Jr.: Aneurysms of the thoracic aorta, *J. Thoracic Surg.*, 36:393, 1958.
4. Gerbode, F., Braimbridge, M., Osborn, J. J., Hood, M., and French, S.: Traumatic thoracic aneurysms: treatment by resection and grafting with the use of an extracorporeal by-pass, *Surg.*, 42:975, 1957.
5. Hirst, A. E., Jr., Johns, V. J., Jr., and Kime, S. W., Jr.: Dissecting aneurysm of the aorta: a review of 505 cases, *Medicine*, 37:217, 1958.



Cancer of the Lung in Tuberculous Patients

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CANCER OF THE LUNG is more common in tuberculous patients than it is in a comparable segment of adult population in the United States. It was assumed at one time that tuberculosis protected against cancer of the lung. Rokitansky¹⁶ said that a definite antagonism exists between cancer and tuberculosis. In recent years it has become widely known that the diseases quite commonly coexist.^{2,4,5,10,18}

The purposes of this communication are (1) to emphasize the frequency of coexistence of the two diseases, (2) to illustrate the methods we use to assist in diagnosis, and (3) to indicate the immediate results we observed in a documented series of cases in which patients had both diseases.

Of 7,680 tuberculous patients admitted to Olive View Sanatorium, 4,010 were over the age of 45 years, and of that group 54 had both cancer of the lung and pulmonary tuberculosis. No patients less than 45 years of age had this combination of diseases. The incidence rate was 1.4 per cent for the age group in question. Although exactly comparative figures are difficult to obtain, rates have been suggested which are much less for the general population³ (Table 1). We estimate the incidence of carcinoma of the lung in tuberculous patients at Olive View Sanatorium to be 8 to 10 times that noted in the general population. About 10 per cent of patients who had carcinoma of the lung detected in mass screening roentgenographic surveys also had active tuberculosis, a figure which has been widely substantiated.^{3,4,6,9,14}

In the present series of patients who were ultimately found to have cancer of the lung, diagnostic studies yielded information adequate for diagnosis in a disappointingly small number of cases (Table 2). In four of 44 patients results of scalene node biopsy were positive for carcinoma; in seven of 46 patients bronchoscopic observations were positive; cytologic studies of sputum were positive in 3 of 42 cases; bronchograms were of limited significance. The diagnostic acuity associated with these aids for diagnosis of pulmonary cancer was less in tuberculous than in non-tuberculous patients. The most important diagnostic clues were obtained from careful studies of serial x-ray films.^{7,8,11,15,17}

Presented before the Section on General Surgery at the 88th Annual Session of the California Medical Association, San Francisco, February 22-25, 1959.

- Of all tuberculous patients over 45 years of age admitted to Olive View Sanatorium in the five-year period ended July, 1958, 1.4 per cent had cancer of the lung. This is a much higher incidence than in a comparable segment of the general population.

Careful examination of serial roentgenographic studies in all cases of suspected pulmonary lesions was found to increase diagnostic acuity. Scalene node biopsy, cytologic study and bronchoscopy were of less help. Diagnostic thoracotomy was the single most useful procedure for diagnosis.

As to operability, the results in patients with both cancer and tuberculosis compared very well with those in patients who had only cancer. Patients who have inactive pulmonary tuberculosis and cancer have much poorer results than patients with active tuberculosis and cancer. There are difficulties in accurately diagnosing cancer in the presence of tuberculosis; and there are special problems in patients with inactive tuberculosis and cancer.

In the following classes of patients the possibility of pulmonary carcinoma should be strongly considered:

1. Those with abnormality in x-ray films of the chest with sputum negative for tubercle bacilli.
2. Those with inactive fibronodular tuberculosis in whom there is evidence suggestive of enlarging components.
3. Those with known active tuberculosis if proper healing does not take place with ordinarily effective anti-tuberculosis treatment.

TABLE 1.—Incidence of Cancer of the Lung (Boucot and Sokoloff³)

	Rate per 100,000		
	Female	Male	Total
Under 45 years of age.....	2	5	3
Over 45 years of age.....	9	284	175
Over-all total.....			37

TABLE 2.—Positive Results from Diagnostic Studies of Various Kinds in Cases of Combined Tuberculosis and Cancer of the Lung

	Number Tested	Number Positive	Per Cent
Scalene Node Biopsy	44	4	9
Bronchoscopy	46	7	15
Cytology of sputum	42	3	7
Miscellaneous	46	2	4
Over-all Histologic Pre-operative Diagnosis.....			18

TABLE 3.—Data on Means of Diagnosis and Operability in 54 Cases of Combined Tuberculosis and Carcinoma

	Number	Per Cent
Pre-operative Histologic Diagnosis	10	18
Operability	25	46
Diagnosis from Thoracotomy	21	39

TABLE 4.—Results in 54 Cases of Combined Tuberculosis and Cancer

	Number	Per Cent
Considered operable	25	46
Curative Resection	12	22
Palliative Resection	3	6
Non-resectable	10	18

TABLE 5.—Results in 36 Cases of Combined Active Tuberculosis and Cancer

	Number	Per Cent
Considered operable	19	53
Curative Resection	10	28
Palliative Resection	2	8
Non-resectable	7	19

TABLE 6.—Results in 18 Cases of Combined Inactive Tuberculosis and Cancer

	Number
Considered operable	7
Curative Resection	2
Palliative Resection	1
Non-resectable	4

The most effective diagnostic procedure for us (as for others¹²) had been early thoracotomy in cases in which there is reasonable possibility of carcinoma (Table 3). In only ten of 54 cases in the present series was the carcinoma histologically diagnosed preoperatively. Thoracotomy was done in 25 of the 54 patients and the diagnosis was made at the time of operation in 21 of the 25.

The presence of tuberculosis in a patient with lung cancer cannot be expected to favorably affect the generally grim prospect of this highly lethal neoplasm.^{3,14} We have chosen to classify the prognosis on the basis of findings at time of operation. As soon as the pathologist's report is available, all cases are classified as (1) curative resection, (2) palliative resection, (3) non-resectable. When mediastinal lymph nodes are involved, a resection is considered to be palliative, even though it is recognized that there may be some possibility of cure.

Twenty-five of the 54 cases were considered operable (Table 4). All except four of these patients with carcinoma of the lung and tuberculosis were found to have tumors of an epidermoid type. Only two of the patients with combined disease were women. Twelve of the patients had a resection of curative type. Curative resections were done in a

TABLE 7.—Results in 85 Cases of Cancer of the Lung

	Number	Per Cent
Considered operable	21	24
Curative Resection	11	12
Palliative Resection	4	5
Non-resectable	6	7

TABLE 8.—Data on Operability of Cancer of the Lung in Patients with Tuberculosis and in Non-Tuberculous Patients (Olive View Sanatorium—1953 to 1958)

	Per Cent Active Tuberculosis	Per Cent Inactive Tuberculosis	Per Cent Non-Tuberculous
Considered operable	53	37	24
Curative Resection	28	11	12

greater proportion of patients with active tuberculosis than in those with inactive tuberculous disease (Tables 5 and 6). In this connection it should be noted that it is easy to overlook the slow progress of malignant disease in a patient who has residual fibronodular tuberculosis. Moreover, close and accurate follow-up is not always available in the case of patients with inactive tuberculosis, whereas almost all patients with active disease are in the sanatorium or under close outside supervision.

In 85 cases of carcinoma of the lung in non-tuberculous patients observed at Olive View Sanatorium in the five-year period here reviewed, the operability rate was 24 per cent, compared with 46 per cent for the 54 patients with both tuberculosis and cancer (Table 7). Curative resections were done in 12 per cent of the non-tuberculous cancer patients, as compared with 22 per cent in patients who had both cancer and tuberculosis (Table 8).

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REFERENCES

1. Bayle, R. C.: Recherches sur la phthisie, Pulmonarie, Paris, Babou, 310, 1810.
2. Bender, F.: Primary pulmonary carcinoma associated with active pulmonary tuberculosis, Dis. Chest, 30:207, 1956.
3. Boucot, K. R., and Sokoloff, M. J.: Is survey cancer of the lung curable, presented before the American College of Chest Physicians, San Francisco, June 1954.
4. Carlson, H. A., and Bell, E. T.: Statistical study of occurrence of carcinoma and tuberculosis in 11,195 postmortem examinations, J. Cancer Res., 13:126, 1929.
5. Cooper, F. G.: The association of tuberculosis and cancer, Am. Rev. Tuber., 25:1, 1932.
6. Faber, S. M., McGrath, A. K., and Tabian, G.: Rev. Panamer. Med. y Cirug. Thor., 2:1, 1949.
7. Jewett, J. S.: The early recognition of tuberculosis and carcinoma, Dis. Chest, 22:6, 1952.
8. Kayne, G. G., Pagel, W., and O'Shaughnessy, L.: Pulmonary Tuberculosis, Oxford, 1948.
9. Moll, A.: Der Bronchialkrebs, Medizinische Klinik, 44:916, 1949.
10. Neussle, W. F.: Association of bronchogenic carcinoma and active pulmonary tuberculosis, Dis. Chest, 23:2, 1953.

11. Newell, R. R., Chamberlain, W. E., and Rigler, L. G.: Descriptive classification of pulmonary shadows, Am. Rev. Tuberc., 69:4, 566, 1954.

12. Overholt, R. H., and Bougas, J. A.: Broncho-pulmonary Diseases, edited by E. A. Neclerio, p. 7-3-711.

13. Penard, M.: Cancer et tubercle di poumon, Bulletin de la Society Anat. de Paris, 21:260, 1846.

14. Reiss, J., Baum, G. L., and Kovnat, M.: The early recognition and treatment of bronchogenic carcinoma, Dis. Chest., 22:529, 1952.

15. Ritvo, M.: Roentgen Manifestations of Carcinoma, Broncho-pulmonary Diseases, edited by E. A. Neclerio, p. 699-7-2.

16. Rokitansky, C. A.: Manual of Pathological Anatomy, Blanchard and Lea, Philadelphia, vol. 1, p. 237, 1855.

17. Shafran, M. E., and Kauee, Julius: The diagnosis of bronchogenic carcinoma in patients with pulmonary tuberculosis, Arch. Int. Med., 96:157-167, 1955.

18. Wayl, P.: Difficulties in diagnosis of coexistent bronchogenic carcinoma and active pulmonary tuberculosis, Dis. Chest., 28:568-573, 1955.

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Roentgen Therapy of Intrathoracic Neoplasms

FRANZ BUSCHKE, M.D., San Francisco

RADIOTHERAPEUTIC EQUIPMENT now available enables us to introduce adequate tumor doses anywhere in the body with relative ease. This facility, together with the rapid progress being made in thoracic surgery, should presumably give a relatively consistent control of thoracic tumors; but in carcinomas of the esophagus and lung, with which this presentation is concerned, results to date remain dismally poor. In a recent comprehensive survey of esophageal carcinoma covering five international centers particularly interested in the treatment of this disease, Smithers⁶ found reports of 13 patients who had survived five years out of 1,412 patients treated by radiation therapy between the years 1919 and 1951. Of 6,348 patients observed in 14 institutions between the years 1931 and 1955, 90 survived five years following either irradiation or surgical operation. Considering only patients treated in recent years by modern methods, this situation has not changed significantly. Similarly, control of bronchial carcinoma by radiation therapy (13 reported cases, to the best of the author's knowledge) has remained a clinical curiosity in medical literature. All the patients in these cases were treated with medium-volt therapy.

CANCER OF THE ESOPHAGUS

In 1952 the author attempted a comparison¹ of the results obtained in treating esophageal carcinoma by optimal surgical techniques and by optimal modern methods of radiation. Surprisingly, the statistical results were quite similar, with a five-year salvage of about 3 per cent of the patients by either operation or radiotherapy. More significantly, palliation was approximately the same by either method, as measured by survival of 40 per cent through the first year, 15 per cent through the second and 10 per cent through the third.

Such similarity suggests that the limitations may be biological and not technical in nature. As with other epidermoid carcinomas, it appears, the limiting factor is not the elimination of the primary disease but the control of the regional lymphatics. Anatomically, the thorax does not lend itself to block dissection as do the lymphatics of the neck,

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Presented before the section on Radiology at the 86th Annual Session of the California Medical Association, April 28-May 1, 1957.

• The results of treatment of carcinoma of the esophagus, whether by operation or radiation, are equally poor: At best 3 to 5 per cent 5-year survival in larger series. Likewise, the palliative results as judged from short-term survival after 1, 2, and 3 years are approximately the same. The cause of failure is usually that metastatic deposits are already present in the paroesophageal and mediastinal nodes by the time diagnosis is made. Control of these nodes is impossible either by surgical or by radiation therapy, but in about half of the patients adequate irradiation therapy will be palliative and will satisfactorily re-establish esophageal function, but entail less morbidity than surgical operation.

Carcinoma of the lung yields little to radiotherapy. Cure is rare, but specific aims of palliation may be achieved. Anaplastic tumors can be controlled locally by irradiation, but they metastasize so rapidly that the chief aim of radiotherapy is to relieve pulmonary embarrassment due to rapid enlargement of mediastinal lymph nodes. Epidermoid carcinomas and adenocarcinomas may be treated at points of bronchial obstruction by intense irradiation, but diffuse thoracic pain is better palliated by sympathetic nerve block.

and the secondary deposits in the mediastinum are even less controllable by radiation than are the biologically similar but much more accessible lymphatic deposits from carcinoma of the oral cavity. The situation is more similar to that of carcinoma of the cervix where, likewise, the prospect of cure is markedly reduced either by radiation or by the most recent surgical approach, once the lymph nodes are involved.

It has been recognized for more than 20 years that epidermoid carcinoma of the esophagus in its primary location is as radioresponsive as epidermoid carcinoma originating in the oral and pharyngeal mucosa. In about half these tumors the esophageal passage can be re-established for the duration of the patient's lifetime;^{5,7} moreover, there is now a sufficient number of well-authenticated necropsy reports, detailing careful serial subsectioning of the treated esophagus without evidence of remaining tumor, to establish that control of the primary lesion is possible in a rather consistent proportion of treated cases. Even the risk of perforation—previously an important deterrent to irradiation of so thin-walled an organ—has been vanquished. If proper technique is used, perforation no longer need

be feared in cases where there has been no previous evidence of imminent perforation or penetration, such as retrosternal or back pain of a penetrating character independent of food intake, or radiographic findings suggestive of a niche. The nine perforations in the 34 patients in the present series who were completely treated occurred in the presence of uncontrolled disease a month to 15 months after completion of therapy, and therefore were probably due to the disease itself.

Analysis of my own material relating to patients treated at the Swedish Hospital* in Seattle between 1940 and 1953 substantiated the conclusions drawn from the larger, but less uniform, international surveys. The number of cases was small, but treatment was conducted with particular personal attention to details.

Significant palliation was obtained in 17 of 34 patients completely treated (out of 77 seen) between 1940 and 1953. In six of the 17 the primary lesion was apparently controlled: Three had roentgenographic and clinical absence of symptoms (for 15, 13, and 2 years); and in the other three, subserial sections of the esophagus at autopsy (ten, four and a half years and two-thirds of a year after treatment) showed no evidence of malignant disease. Eleven additional patients showed radiological and clinical evidence of satisfactory esophageal function for periods of five months to 26 months following treatment and before they died of extraesophageal disease. In three of the four patients in whom the disease was controlled for the longest periods, the lesion was located in the upper third of the esophagus; in one it was in the lowermost portion at the junction with the cardia.

From the available data, therefore, it would appear that further technical improvements are not likely to produce any clinically significant advantage for either surgical therapy or radiotherapy of esophageal carcinoma. Quite probably, though, more good can be done for more patients—and useless post-therapeutic morbidity avoided—by more careful selection of the treatment in each case. By such selection Garlock,¹ for example, obtained five-year freedom from symptoms in ten of thirty-six patients who had resection (28 per cent) and in 12 per cent of 81 patients who had exploratory operations. The main considerations in selection of therapy are, in order of importance, the location in the esophagus, the nature of the tumor and the patient's age; but each case should be analyzed in consultation between surgeon and radiotherapist.

It has long been recognized that lesions in the upper portion of the esophagus are more likely to respond to radiotherapy, while the best surgical re-

sults are obtained in lesions of the lower esophagus. Smithers,⁶ in his recent analysis, deduced that roentgen therapy had achieved five-year salvage in 11 per cent of carcinomas in the cervical esophagus but only 2 per cent of those in the lower thorax, whereas the proportion was reversed for surgical therapy, and for midthoracic lesions results were equally poor by either method. Previously, the choice in treatment of midthoracic lesions might be determined by the greater primary mortality following supra-aortic as compared with infra-aortic anastomosis; but with further experience this difference has decreased. Infra-aortic anastomosis is legitimate only for lesions of the lower tract, since the possible extension of the tumor into the submucosal lymphatics along the esophagus makes it necessary that at least two-thirds of the organ be removed.

The type of lesion sometimes can be better assessed from the roentgen or esophagoscopic appearance than from microscopic study of a tissue sample that may not be representative of the entire process. Other things being equal, the short, primarily constricting lesions may be more amenable to resection. The more proliferating papillary growths, because they are less likely to cause early obstruction, more often progress to lymph node involvement before they are recognized; on the other hand, they are more radioresponsive. The very anaplastic carcinomas—relatively rare—that appear as flat ulcerations extending over large portions of the esophageal wall and cause symptoms through ulceration rather than obstruction are, because of their aggressiveness, less likely to be controlled surgically.

The patient's age should be considered chiefly in terms of preserving his physical and mental reserves. Because esophageal cancer so often occurs in the seventh and eighth decades, and because permanent control is so unlikely at any age, perhaps less emphasis should be placed on control at any price and more on the chief aims of palliation—esophageal patency and avoidance of gastrostomy. For older patients, palliation of this kind, if it can be maintained for a year or two, can be more satisfactory than for younger persons. Regardless of age, the so-called "palliative resection" seems unjustified when, either at exploratory thoracotomy or before, it is found that the growth cannot be entirely removed; the grave morbidity associated with resection is out of proportion to the benefits derived. In about 50 per cent of cases, the esophagus can be reopened by irradiation with much less morbidity.

CANCER OF THE LUNG

Not only lymphatic metastasis but even control of the primary lesion is unusual in cancer of the lung, and cure by irradiation is an unpredictable rarity.

*The author is grateful to Dr. Simeon T. Cantril for permission to use the material of the Tumor Institute of the Swedish Hospital.

Palliation, therefore, might seem more frequently desirable than it is in cancer of the esophagus, but it is even less consistently and less fully achieved. Palliative radiotherapy, however, has a definite though limited place in the treatment of bronchial carcinoma when directed with appropriate technique against certain symptoms.

For therapeutic purposes, two chief types of lung cancer can be recognized and may be differentiated by clinical and roentgen findings: (1) *Epidermoid carcinomas and adenocarcinomas* progress slowly and, if recognized early (usually from roentgen findings, before symptoms have occurred) can be surgically removed with some probability of success. When such tumors have progressed beyond this early, presymptomatic stage they extend along the submucosal tissue into the bronchial wall and involve cartilage and surrounding pulmonary parenchyma. At this stage radiotherapy as well as surgical operation is likely to be unsuccessful even at the primary site because of the recognized difficulty of controlling disease involving cartilage and because the extent of the tumor is so difficult to judge that the necessarily high doses, if applied to a large enough area to assure coverage, will cause excessive damage. However, this does not mean that more conservative radiotherapy may not occasionally be successful. (2) *Undifferentiated carcinomas*, including the oat cell and small round cell types, are highly radiosensitive and can be controlled locally with relative ease, but usually before being discovered they have progressed to larger areas throughout the pulmonary parenchyma and widely involved the regional lymphatics. As most thoracic surgeons now recognize, these tumors, like rapidly progressing lymphomas, are unsuitable for surgical intervention of any type.

Both the indications and the techniques for palliation differ in cancer of these types. The main indication is the mediastinal embarrassment caused by anaplastic tumors through rapid enlargement of mediastinal lymph nodes. These are treated by doses 2,000 to 3,000 r in three to four weeks, but in cases of emergency more rapid results can at times be obtained with intravenously administered nitrogen mustard, which may or may not be followed by cautious radiotherapy. These tumors disseminate so

rapidly that palliation of other symptoms by radiotherapy is rarely worth while.

Inoperable epidermoid carcinomas and adenocarcinomas progress more slowly and do not commonly cause mediastinal embarrassment. Presenting symptoms usually are due to complications following bronchial obstruction, which can be reduced only by rather high dosage—5,000 to 6,000 r in five to six weeks, introduced through small portals and centered well on the obstructing lesion as localized by bronchoscopy, exploration or roentgenography. Occasionally severe bleeding can be stopped by this means. The diffuse thoracic pain often associated with the later invasive stages of these tumors is not benefited by radiotherapy, in the author's experience, but is palliated more effectively by sympathetic nerve block. Only the peripheral nerve pain of Pancoast's syndrome associated with tumors at the brachial plexus can be much relieved for long periods by massive irradiation.

In bronchial carcinoma, the magnitude of any palliative procedure must be measured against the patient's life expectancy and the probable degree and duration of relief. Palliation must be directed to a specific end, not done for the sake of doing something. Prolongation of comfortable life, not of mere survival, is the object.

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REFERENCES

1. Buschke, F.: Surgical and radiological results in the treatment of esophageal carcinoma, Am. J. Roentgenol., 71:9-21, Jan. 1954.
2. Buschke, F., and Cantril, S. T.: Results of supervoltage roentgenotherapy of esophageal carcinoma, J. Thoracic Surg., 26:105-108, July 1953.
3. Buschke, F.: Treatment of Malignant Disease of the Gastrointestinal Tract. In: Clinical Therapeutic Radiology. Edited by Portmann, U. V. Thomas Nelson & Sons, New York, 1950.
4. Buschke, F.: Roentgen therapy of carcinoma of the lung, Radiology, 69:489-493, Oct. 1957.
5. Nielsen, J.: Clinical results with rotation therapy in cancer of the esophagus, Acta radiol., 26:361-391, 1945.
6. Smithers, D. W.: The treatment of carcinoma of the oesophagus, Ann. Royal College of Surgeons of England, 20:36-49, Jan. 1957.
7. Zupfinger, A.: Die Behandlung der Ösophaguskarzinose: Zürcher Erfahrungen, Ergeb. d. med. Strahlenforsch., 7:389-456, 1936.

A Review of Operations on the Temporal Bone

JAMES L. SHEEHY, M.D., Los Angeles

THERE SEEMS to be a feeling among young physicians that temporal bone operations are a thing of the past, that mastoidectomy is seldom performed in the antibiotic age. During a 30-month tour of duty at an army hospital,* the author found this attitude quite prevalent among physicians who had just completed their internship in some of our leading educational institutions. The majority of these men had little knowledge of the indications for aural operations. Many had even been taught that myringotomy was fundamentally wrong. It was with these things in mind, and because of the interest in the subject shown by various hospital staff members, that this article was written.

Over a period of 30 months covered by this report, 192 temporal bone procedures were performed by the author. With that as background, an attempt will be made to review the field of surgical otology, with particular attention to the procedures performed most frequently by the author.

Before the advent of antibiotics, operations on the temporal bone were primarily concerned with the control of infection and in many cases the saving of life, with little regard for hearing function. Although control of infection is still of primary importance, the preservation or restoration of hearing (functional otologic operation) has assumed a far greater importance in many of the same kind of cases. Better illumination, magnification and instruments, along with the development of antibiotics, have permitted the introduction or perfection of operations for the restoration of hearing in conditions that have little or no relationship to infection. Today there are few, if any, hearing impairments of conductive type that are not amenable to some form of medical or surgical therapy.¹

INDICATIONS

Most temporal bone operations are performed for the treatment of acute or chronic middle ear and mastoid infections, otosclerosis and perforations of the tympanic membrane not associated with active infection (Table 1). These will be discussed later.

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Sponsored by the Los Angeles Foundation of Otolaryngology.

Submitted March 3, 1959.

*98th General Hospital, APO 34, New York, July 1955 to February 1958.

• The majority of temporal bone operations are performed for treatment of acute or chronic middle ear and mastoid infection, otosclerosis and perforations of the tympanic membrane.

Far from being a thing of the past, temporal bone surgery is an expanding field in the antibiotic age.

Since treatment with antibiotics may temporarily allay the symptoms of serious disease of the ear, great care must be taken in examination of patients with a suspicious history.

Other less common conditions requiring operation are briefly discussed below:

Tumors. Malignant disease of the mastoid is rare. Tumors of the glomus jugulare, histologically benign, but clinically malignant, frequently involve the middle ear primarily. The prognosis is relatively good if they are treated early. One such case is included in this series. Benign tumors of the external auditory canal and mastoid do occur, but are not common. Three cases of external canal osteoma and two cases of rare epidermoid tumors of the mastoid in which the author operated are reported elsewhere.^{10,11}

Meniere's Disease. Occasionally in Meniere's disease operation may be required because of uncontrolled vertigo. A destructive labyrinthotomy is done.

Facial Nerve Paralysis. Diseases of the facial nerve requiring temporal bone operation fall into two groups: The traumatic and the nontraumatic. Patients with facial nerve paralysis following head injury usually recover spontaneously. Surgical exploration is indicated if there is no sign of return of function within six to eight weeks. In idiopathic

TABLE 1.—Indications for Temporal Bone Operation

Middle ear and mastoid infection:
Acute
Chronic
Otosclerosis
Perforation of the tympanic membrane
Tumors
Meniere's disease
Facial nerve paralysis
Congenital abnormalities:
Congenital footplate fixation
Congenital ear canal aplasia
Miscellaneous:
Nonsuppurative mastoid inflammation
Acquired stenosis

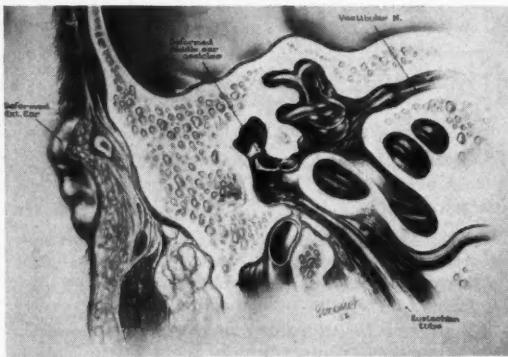


Figure 1.—Congenital microtia and ear canal aplasia.
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(Bell's) palsy, nonsurgical therapy should be begun at once, and decompression is indicated if return of function is not evident within eight weeks.⁷

Congenital Abnormalities. Congenital ossicular abnormalities causing conductive hearing losses in otherwise normal ears are being recognized more frequently. The most common of these is congenital stapes footplate fixation.⁵ This, along with congenital ear canal aplasia (Figure 1), is amenable to surgical correction with resultant hearing improvement.

Miscellaneous. Occasionally operation is necessary in a case of nonsuppurative middle ear and mastoid inflammation.¹² The present series also included two cases of idiopathic hemotympanum, treated by simple mastoidectomy, and one operation for repair of traumatic external auditory canal stenosis.

ACUTE MASTOIDITIS

Acute surgical mastoiditis, requiring simple mastoidectomy, was at one time the mainstay of the otologist's surgical practice. Since the advent of antibiotics the situation has changed. This is not due to any ability of antibiotics to cure mastoiditis or to prevent complications, but rather to the decrease in incidence of severe acute otitis media and the ability of physicians to prevent surgical mastoiditis by proper early treatment. Among otologists there is general agreement that proper early treatment means early myringotomy and use of antibiotics.^{1,3,9} The dangers inherent in the nonsurgical concept of treatment of acute suppurative otitis media should be stressed. Goodale and Montgomery⁸ noted that the majority of patients with acute surgical mastoiditis had not had early myringotomy.

Acute surgical mastoiditis still occurs but the problems of diagnosis now are greater due to the masking effect of antibiotics.⁸ In the past, the patient often was acutely ill and had a relatively typical

history and findings indicating operation, occasionally as a life-saving measure. Now, it is not unusual to have the patient afebrile and ambulatory, as in the case of the five patients (six operations) in the following reports.

CASE 1. The patient, a four-year-old child, was said to have taken an oral antibiotic for five days because of an ear infection. She was then asymptomatic. When first examined, a month later, she was afebrile and apparently generally healthy. A subperiosteal postauricular abscess that displaced the auricle laterally was observed. The posterior superior canal wall sagged, and the tympanic membrane was retracted. There was no leukocytosis or accelerated sedimentation rate. Operation was carried out, the abscess was drained and edematous granulation tissue was removed from the mastoid cells. No organism could be cultured.

The diagnosis was: Mastoiditis with postauricular abscess, masked by antibiotics.

CASE 2. A 19-year-old man reported that he had had intermittent earache for three months, treated with "ear drops" and salicylates. Three weeks before admission he had fever, acute ear pain, suppurative discharge from the ear and swelling of the external canal, associated with decided postauricular tenderness. Numerous antibiotics were given in large doses and the symptoms subsided over a period of six days. Convalescence was satisfactory for ten days thereafter, the discharge gradually diminishing. There was then a one-day episode of fever (104°F.) and chills.

When the patient was first examined the temperature was 103°F. but remained normal thereafter. The only complaints were of slight weakness and mild pain behind the right ear and above the right eye. Results of neurological examination were within normal limits. The tympanic membrane was retracted and there was granulation tissue external to it posteriorly. An exploratory postauricular mastoidectomy was performed. The mastoid was filled with infected granulation tissue and there was partial destruction of the posterior ear canal wall. Adjacent to the sigmoid sinus was an epidural abscess containing about 30 cc. of pus. No organism grew on a culture of this material. The postoperative course was uneventful.

The diagnosis was: Masked mastoiditis with posterior fossa epidural abscess.

CASE 3. A six-year-old child was referred because of right otitis media of two weeks' duration that had not responded to antibiotic therapy. A large polyp occluded the external canal, protruding through a fistula in the posterior bony canal wall. Hemolytic *Staphylococcus aureus* (coagulase-positive) was cultured and erythromycin therapy was initiated. At

simple mastoidectomy the entire cellular system was observed to be filled with infected granulation tissue. The postoperative course was uneventful.

The diagnosis was: Mastoiditis masked by effect of antibiotics.

CASE 4. A one-year-old girl was referred because of bilateral acute otitis media and right facial nerve paralysis. Three and a half weeks before admission, fever and right facial weakness had developed. Bilateral otitis media was diagnosed and penicillin and oxytetracycline were prescribed. The patient was admitted to another hospital seven days later and treated by repeated bilateral myringotomy and administration of erythromycin and chloramphenicol. Discharge of pus (hemolytic *Staphylococcus aureus*) continued from both ears. There were no systemic signs of infection.

Examination showed a healthy appearing child with a complete right facial nerve paralysis. There were bilateral central inferior tympanic membrane perforations, discharging pus, with redness and sagging of the posterior superior canal walls. At bilateral simple mastoidectomy pus under pressure was noted, and there was granulation tissue filling the mastoid cells. Suppuration continued postoperatively despite erythromycin therapy. A culture again demonstrated hemolytic *Staphylococcus aureus*, sensitive to erythromycin. There was immediate improvement following initiation of penicillin therapy, and the child was discharged from the hospital 22 days after operation. The facial nerve paralysis was diminishing slowly.

The diagnosis was: Bilateral mastoiditis masked by antibiotics, with facial nerve paralysis.

CASE 5. A seven-year-old boy had been hospitalized elsewhere two months previously because of acute otitis with suppurative discharge, associated with high fever and postauricular tenderness. Symptoms subsided under antibiotic therapy, but the discharge continued. When the patient was first examined there was sagging of the posterior superior canal wall and a seropurulent discharge issuing from a central inferior perforation. Hemolytic *Staphylococcus aureus*, coagulase-positive, was cultured. Simple mastoidectomy was done and the mastoid was observed to be filled with infected granulation tissue. The bone adjacent to the sigmoid sinus had been destroyed, and an extradural pocket of granulation tissue was observed. This condition was residual from a posterior fossa epidural abscess. All diseased tissue was removed. Convalescence was uneventful.

The diagnosis was: Mastoiditis with posterior fossa abscess, masked by antibiotics.

The patients in the foregoing cases had acute mastoiditis masked by antibiotics; that is, the clinical signs were suppressed despite progression of the

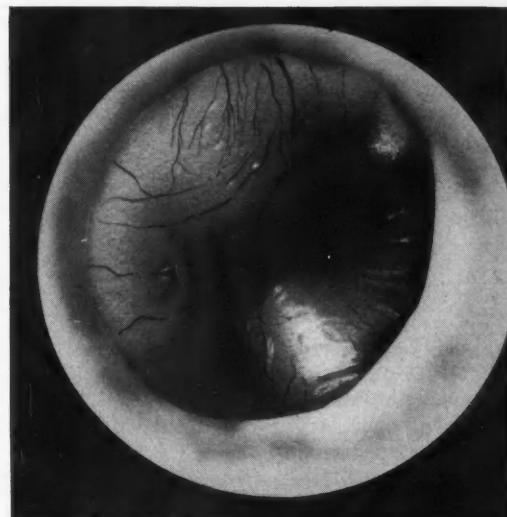


Figure 2.—Bulging right tympanic membrane in acute otitis media.

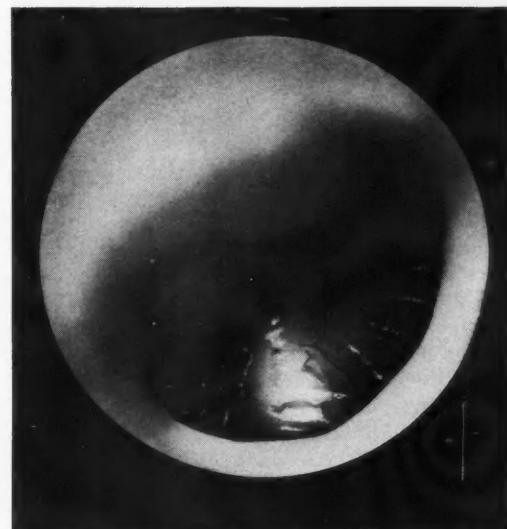


Figure 3.—Bulging right tympanic membrane and edema and sagging of posterior superior canal wall in acute mastoiditis.

disease in the temporal bone. In two cases intracranial extension developed despite antibiotic treatment. When the patients were first seen there was little to indicate the seriousness of their disease. Only one of the patients (Case 4) gave a history of reasonably adequate treatment, consisting of myringotomy and specific antibiotic therapy based on reports of culture and sensitivity. This specific therapy is very important, particularly when dealing with organisms such as hemolytic *Staphylococcus* (Cases 3, 4

and 5). With the exception of the patients in Cases 2 and 3, all had a redness and sagging of the posterior superior canal wall. This sagging and redness, along with bulging of the tympanic membrane and indistinctness of the tympanomeatal junction, are indications of periostitis and bone disease (Figures 2 and 3). For this condition, simple mastoidectomy is indicated. Use of antibiotics will not cure mastoiditis which has advanced to this point; it will only cloud the clinical picture.

Chronic Suppurative Otitis Media

Chronic discharge of purulent material from the ears may be considered under two general headings: The benign type and the potentially dangerous type. Although generalizations such as this are in themselves potentially dangerous, this division is a useful one for purposes of discussion.

The so-called benign type frequently does not require operation at least for control of infection. In this type the ear has a central inferior tympanic membrane perforation with intermittent discharge of a mucoid or mucopurulent material (Figure 4). Discharge is usually initiated by an upper respiratory infection or by the introduction of water into the ear. This intermittent discharge, and a mild to moderate nonprogressive loss of hearing, are the only symptoms. "Nonsurgical ear" is a term often used for this condition because treatment must frequently be directed primarily at the sinuses, nasopharynx and eustachian tube, and to control of any underlying allergic disease. Acute bacterial infection of the middle ear is found only as a temporary complication and does not in itself represent the fundamental problem. The term "nonsurgical ear" has become somewhat obsolete, of course, since the advent of tympanoplasty and myringoplasty, which will be discussed later.

In contrast, in the case of the potentially dangerous type of chronically discharging ear, operation usually is necessary for control of infection. This is the so-called "stinking ear" with a continuous or intermittent malodorous discharge, occasionally bloody. Although the hearing may initially be quite normal, there is a gradually progressive loss of hearing with continued suppuration. The perforation is usually in the superior or posterior superior quadrant and not infrequently is associated with a polyp or granulation tissue (Figure 5). This is a difficult perforation to see and may be overlooked if the examiner is not very thorough. Failure to realize the significance of the history along with failure to see the perforation, will often result in prolonged treatment for "external otitis" that does not exist.

In cases of this type the disease is due to an ingrowth of squamous epithelium around a perforation, resulting in a skin-lined pocket in the mastoid

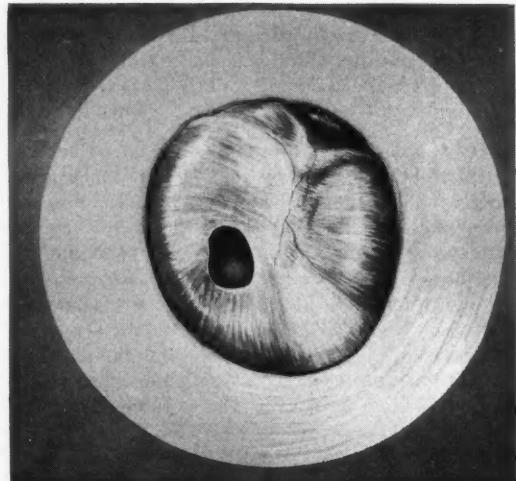


Figure 4.—Central right tympanic membrane perforation.

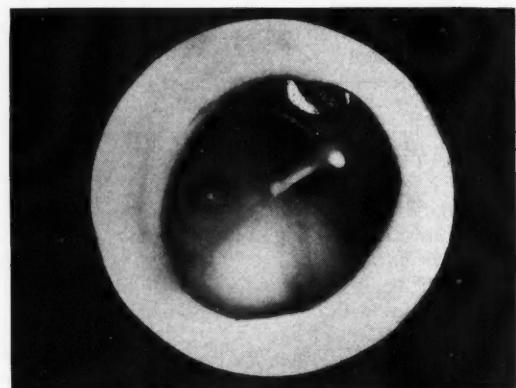


Figure 5.—Pars flaccida tympanic membrane perforation (right) with granulation tissue protruding from cholesteatoma.

which is continually or repeatedly infected. When this occurs a cholesteatoma forms. The condition is potentially dangerous because, without treatment, eventually in some cases labyrinthine fistula will develop, resulting in severe vertigo, facial nerve paralysis or intracranial extension of the disease. Loss of hearing will develop eventually in all such cases.

Generally speaking, any patient with acute or subacute discharge from the ear which does not respond to vigorous conservative treatment within a period of four to six weeks, should be considered for mastoid operation. This is particularly true when the ear is of the potentially dangerous type. It is difficult to justify the attitude of some otolaryngologists who tend to minimize the potential seriousness of disease of this type and carry on prolonged so-called conservative treatment when it has become quite ob-

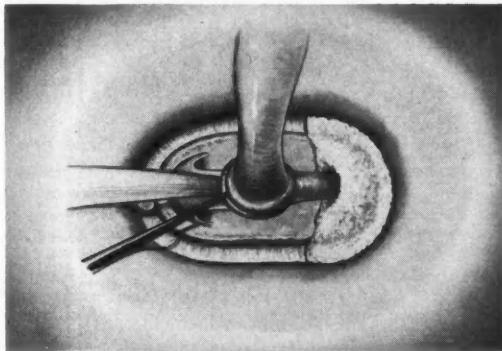


Figure 6.—Stapes fixed by otosclerotic bone (surgeon's view).

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vious that operation is indicated. Conservative (but complete) mastoid operation will result in an ear that is no longer dangerous, and, in the vast majority of cases, a dry ear. Fortunately, those with serviceable hearing will usually maintain this hearing. Those with unserviceable hearing may have their hearing greatly improved by reconstruction of the middle ear and sound-conducting mechanism (tympanoplasty).

During the 30-month period covered by this report, 45 modified radical and three radical mastoidectomies were performed for control of chronic ear infection. Cholesteatomas were present in 85 per cent of this group. Twenty-four of the patients had serviceable hearing before operation and it was maintained afterward. Of the 24 patients with unserviceable hearing before operation, eight had their hearing improved to the serviceable level. In all but one case the aural discharge stopped after operation.

SURGICAL TREATMENT OF OTOSCLEROSIS

Otosclerosis is a disease of the bone of the inner ear resulting in stapes ankylosis (Figure 6). It is characterized clinically by a gradually progressive conductive hearing loss, usually bilateral, associated with tinnitus. Symptoms first develop in young adulthood and there are no objective physical findings.

Until a few years ago the only surgical treatment that could be offered was the fenestration operation,² a modified radical mastoidectomy in which a fistula is created into the horizontal semicircular canal and covered with a pedicled skin graft. Sound may then enter the inner ear by way of this new window, bypassing the fixed ossicular chain. The operation results in permanent, practical hearing in 80 per cent of cases, but hearing is never restored

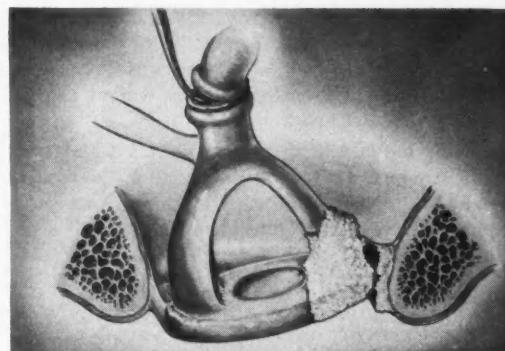


Figure 7.—Stapes mobilized (side view).

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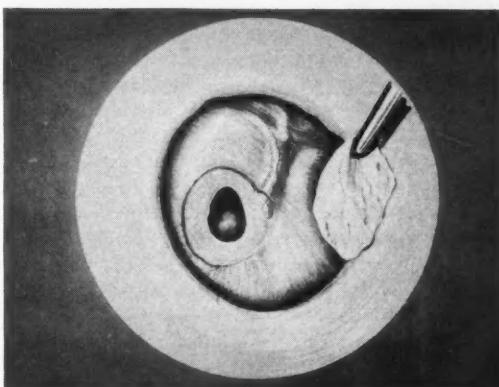


Figure 8.—Skin graft being applied to right tympanic membrane perforation in myringoplasty (compare with Figure 4).

to normal. Although the fenestration operation has been performed widely in civilian life, it has not generally been recommended for military personnel because of the extent of hospitalization and after-care, and the fact that the hearing result is often not satisfactory for full military duty. In the military services the practice has been to issue a hearing aid.

Within the last few years the stapes mobilization operation has been reintroduced by Rosen and has gained wide acceptance.⁶ By contrast with the fenestration operation this technically more difficult procedure is a relatively minor one for the patient. It is performed under local anesthesia, requires only a few days' hospitalization and very little after-care, and the results are very gratifying (Figure 7). It is now generally agreed that stapes mobilization is the operation of choice, despite the fact that permanent, practical hearing is obtained slightly less frequently than with the fenestration. Fenestration can be performed later if mobilization is unsuccessful. From the military standpoint mobilization is a very satis-

factory procedure: Hospitalization and after-care are brief; intermittent discharge from the ear following operation is rare, as contrasted with fenestration; and the patient need have no fear of getting water into the ear canal.

During the last 12 months of the period covered by this report, 114 stapes mobilizations were performed. Eighty-six of the patients were observed periodically for four months or more and 63 of them showed a significant hearing improvement, 23 being restored to essentially normal hearing.

RECONSTRUCTIVE OPERATION ON THE MIDDLE EAR

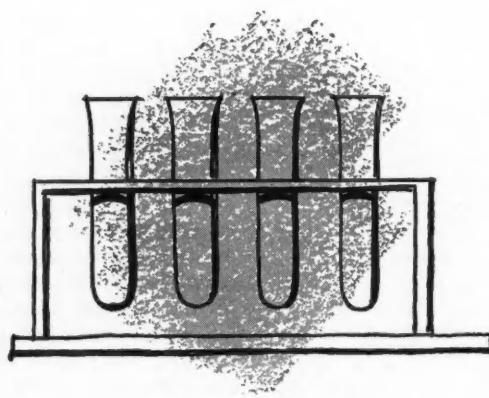
For years otologists have been cauterizing the edges of dry tympanic membrane perforations and then applying prosthetic devices to attempt repair of the perforation and hearing improvements.¹³ Attempts have been quite successful at times but treatment has often been prolonged. Although skin grafts have been used for this purpose sporadically, it was not until recently that the concept of tympanoplasty was presented in a systematic form.¹⁴ This has opened a whole new field in otologic surgery. Any one with a perforation of the tympanic membrane, be it large or small, is a candidate for this reconstructive operation on the middle ear, provided inner ear function is satisfactory. This can only be determined by careful otological examination and hearing tests. With closure of the perforation by myringoplasty (skin graft on the tympanic membrane) essentially normal hearing may be restored, and intermittent drainage will cease to be a problem (Figure 8). In tympanoplasty, disease is eradicated by radi-

cal mastoidectomy, then a new tympanic membrane and middle ear space are created by use of a skin graft.

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REFERENCES

1. Davison, F. W.: Otitis media—then and now, *Laryngoscope*, 65:142-151, 1955.
2. Farrior, J. B., Bagby, R. A., and Thomas, C.: Fenestration operation analyzed for nonfenestrating otologists, *A.M.A. Arch. Otolaryng.*, 59:1-17, Jan. 1954.
3. Goodale, R. L., and Montgomery, W. W.: Dangers inherent in the nonsurgical concept of acute suppurative otitis media, *Annals Otol. Rhin. and Laryng.*, 64:181-191, March 1955.
4. Hoople, G. D.: Advances in otology, *J.A.M.A.*, 165:232-234, Sept. 21, 1957.
5. House, H. P., House, W. F., and Hildyard, V. H.: Congenital stapes footplate fixation, *Laryngoscope*, 68:1389-1402, 1958.
6. House, H. P.: Personal experience with stapes mobilization, *A.M.A. Arch. Otolaryng.*, 65:235-244, March 1957.
7. McGovern, F. H., and Fitz-Hugh, G. S.: Diseases of the facial nerve, *Laryngoscope*, 66:187-236, March 1956.
8. Richardson, G. S.: Subacute mastoiditis, *Laryngoscope*, 64:102-112, 1954.
9. Rutherford, M. H.: Proper use of antimicrobial drugs in acute otitis media, *Trans. Am. Acad. Ophthal. and Otolaryn.*, 57:53-62, 1953.
10. Sheehy, J. L.: Osteoma of the external auditory canal, *Laryngoscope*, 68:1667-1673, Sept. 1958.
11. Sheehy, J. L.: True cholesteatoma: A report of two cases, *A.M.A. Arch. Otolaryng.*, 69:67-60, Jan. 1959.
12. Sheehy, J. L., and McKibben, B. G.: Idiopathic hemotympanum. Review of the literature and report of three cases, *Laryngoscope*, 66:1291-1302, Oct. 1956.
13. Wright, W. K.: Repair of chronic central perforations of the tympanic membrane: By repeated acid cauterization; by skin grafting, *Laryngoscope*, 66:1464-1487, Nov. 1956.
14. Wullstein, H.: Theory and practice of tympanoplasty, *Laryngoscope*, 66:1076-1093, Aug. 1956.



Tympanotomy

Exploratory "Laparotomy" of the Middle Ear

EUGENE S. HOPP, M.D., San Francisco

DESPITE GREAT PROGRESS in the knowledge of the physiologic principles and of pathologic changes in hearing and despite considerable advances in methods of testing and analyzing hearing losses, there are still patients with conduction deafness or mixed deafness in whom the exact nature of the damaging process can only be surmised. Occasionally these patients present a middle ear problem that can be resolved only by direct inspection.

With the demonstration by Rosen^{1,2,3} of the technique of tympanotomy for stapes mobilization, a relatively simple surgical means has become available for exploration of the middle ear in these diagnostic problem cases. The term "simple" in connection with tympanotomy refers only to the ease with which the procedure is tolerated by the patient. For the surgeon, mastery of tympanotomy requires considerable time in the anatomy laboratory and much practice in the use of the operating microscope. The procedure is done under local anesthesia. Since the nerve supply of practically the entire area to be explored can be reached by injection of the superior, posterior and inferior portions of the external auditory canal, I have abandoned the anterior injection included by Rosen in his original technique.

In order to illustrate what may be accomplished by exploratory tympanotomy two cases have been selected from a series of 200 in which I have operated by the tympanotomy approach for stapes mobilization, myringoplasty, tympanoplasty, etc.

The first patient, a man 33 years of age, was examined at the request of another otolaryngologist because of unilateral conduction deafness (Figure 1). The patient had a history of ear difficulty in childhood and was not certain about a possible hearing loss before World War II. He knew definitely, however, that when his ship exploded while he was on Navy duty during the war he had severe deafness in the right ear. There was no history of discharge from the ear and the drum membrane on examination was perfectly normal. The result of

• In some cases of conduction deafness or mixed deafness, direct inspection of the area believed to be involved is the only means by which diagnosis can be made with certainty. This can be done by a method of tympanotomy that is used for stapes mobilization. The necessary exposure is done with local anesthesia, is not painful, is well tolerated by the patient and requires only two days in hospital.

Reparative procedures may be carried out as indicated.

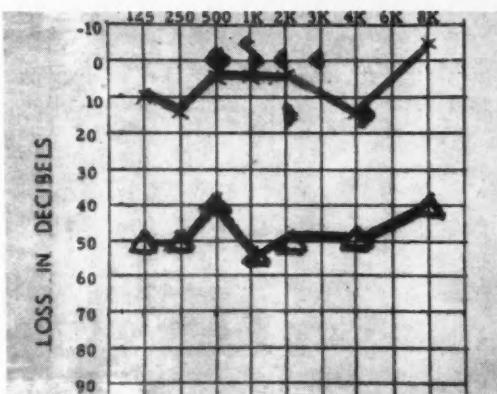


Figure 1.—Preoperative audiogram (Case 1). Left ear conduction deafness with decided bone-air gap.

Rinne's test was negative in the right ear and the Weber test lateralized to the right. While the 64-cycle tuning fork was not heard in the right ear, the Lewis test was negative for stapes fixation. In view of the audiometric and clinical findings and the presence of partial recruitment it was felt the patient had unilateral otosclerosis with some cochlear damage. The patient requested surgical treatment because as an attorney he had considerable difficulty in court when opposing counselors were seated on his deaf side. A right tympanotomy was done on August 3, 1957. At operation, the capitulum of the stapes was found to be smooth and rounded and the long process of the incus was bound to the inner surface of the drum membrane by fibrous adhesions (Figure 2) and was completely separated from the stapes. The incus was carefully

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Presented before the Section on Ear, Nose and Throat at the 88th Annual Session of the California Medical Association, San Francisco, February 22-25, 1959.

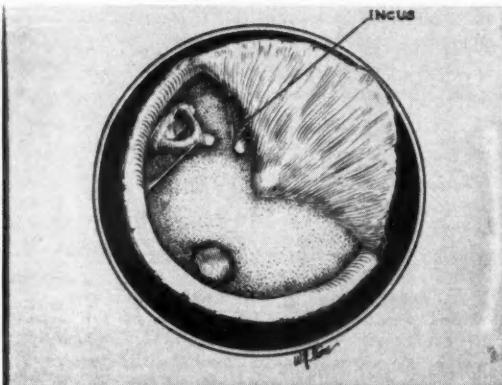


Figure 2.—Appearance of middle ear at tympanotomy (Case 1).

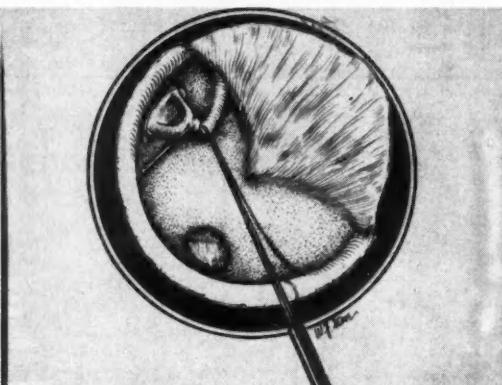


Figure 3.—Incus re-approximated to stapes.

freed from the drum and readily brought back into articulation with the stapes (Figure 3). Palpation of the stapes disclosed it to be completely mobile and the patient noted immediate hearing improvement on contact of the capitulum of the stapes with the palpating instrument. The articular surface of the stapes was lightly scarified with a fine needle before the incus was placed in contact with it. Then a small piece of gelfoam was placed between the incus and the drum membrane (Figure 4) and the drum membrane was replaced.

Another piece of gelfoam was placed on the outside of the drum membrane to secure it in place (see Figure 5). Recovery was uneventful. Two months after operation the hearing in the right ear was excellent (Figure 6), although there was a high tone loss, probably owing to acoustic trauma from the original blast injury, which undoubtedly was the cause of the incudo-stapedial separation. The hearing when tested a year and a half after operation was excellent. The patient had had no difficulty

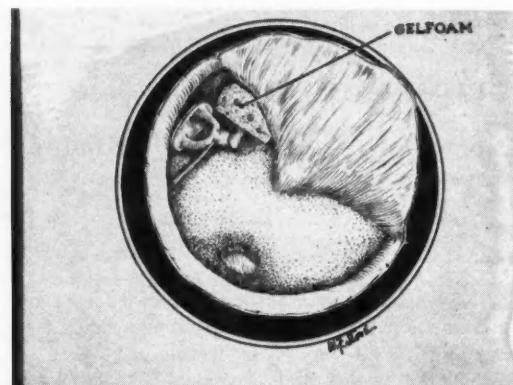


Figure 4.—Gelfoam to maintain approximation of incus and stapes.

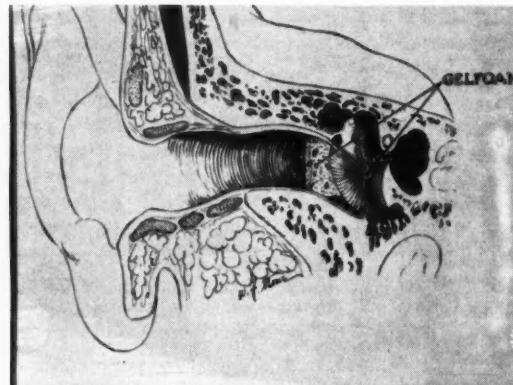


Figure 5.—Drum membrane replaced and gelfoam in canal to maintain drum position.

with the ear and was most pleased with his hearing for speech.

The second patient, 50 years of age, the mother of a physician, was first examined by the author in July, 1957. She had had a right mastoidectomy in childhood. Some five years before the time of the present report, loss of hearing developed in the left ear. The patient had consulted several otologists, both while her son was in medical school and after his establishment in practice. A diagnosis of glomus jugulare of the middle ear had been suggested. On examination a post-auricular mastoidectomy scar was noted on the right. The drum membrane in the right ear was intact. The left drum seemed rather dull, with some posterior fullness. There was, however, no pulsation and no redness such as one might expect from a glomus tumor. There was a suggestion of fluid anteriorly and superiorly in the middle ear, which certainly seemed unusual. Eustachian inflations in the past had reportedly helped the hearing. The Rinne test reaction was negative in the left ear.

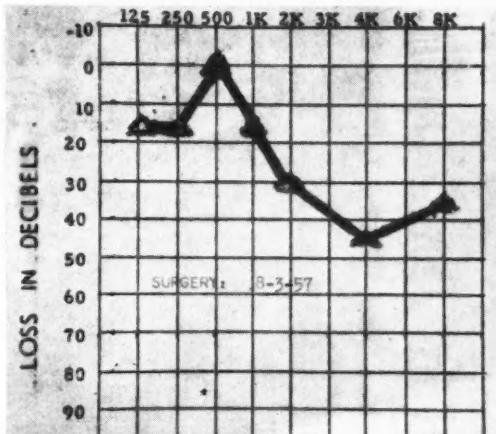


Figure 6.—Post-operative audiogram, left ear (Case 1).

and equal in the right. Lateralization was questionable. The patient proved to be very difficult to test audiometrically. The tests were done both in my office and at the University of California Audiology Department. The conduction hearing loss in the right ear was believed to be associated with the previous mastoid operation. There certainly was an adequate air-bone gap in the left ear. I learned that the patient had had an aspiration myringotomy of the left ear, done by a very skillful otologist, in 1956 and had had much pain. Normally in serous otitis this procedure is painless. I, too, attempted aspiration of possible fluid in the left ear and the needle entered something of a slightly softer consistency than raw potato. The insertion was painful and no fluid was obtained. On August 31, 1957, left tympanotomy was done under local anesthesia. A papillomatous-appearing tumor was found in the middle ear (Figure 7). Excision of a biopsy specimen was very painful, but the recovery from tympanotomy was uneventful. On September 30, 1957, under general

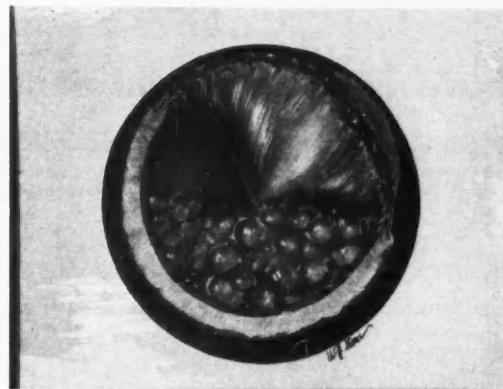


Figure 7.—Appearance of meningioma at tympanotomy (Case 2).

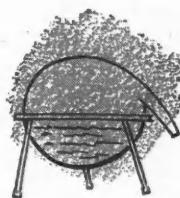
anesthesia the tympanotomy was repeated at the University of California Hospital and a tumor about 1.5 cm. in diameter, with narrow stalk, was dissected free from the middle ear. The exact point of attachment could not be determined. The pathologist's diagnosis was: "Meningioma, meningotheliomatous type, left middle ear." The stapes was found intact at operation, but no incus could be seen. Recovery from this procedure was again uneventful but there was no hearing improvement at last examination some 16 months after operation.

This patient had had a carcinoma of the breast removed several years before the onset of deafness in the left ear.

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REFERENCES

1. Rosen, S.: Palpation of stapes for fixation, A.M.A. Arch. Otolaryngol., 56:610-615, Dec. 1952.
2. Rosen, S.: Mobilization of the stapes to restore hearing in otosclerosis, N. Y. State J. Med., 53:22, Nov. 15, 1953.
3. Rosen, S.: Simple method for restoring hearing in otosclerosis. Mobilization of stapes, Acta-Otolaryngol., 44:1, 1954.



Surprises in Hernial Sacs

Diagnosis of Tumors by Microscopic Examination

JOHN H. YOELL, M.D., San Francisco

FOR SEVERAL YEARS I have observed, in various laboratories, the questionable practice of regarding surgically excised hernial sacs as rather dull "routine" specimens. Examination is often limited to superficial examination of gross material. Yet such practices may be treacherously inadequate, for the sacs are not always innocuous postoperative residue. Justification for the policy of our laboratory of preparing histologic sections of all hernial sacs is provided by the following five examples.

CASE 1. A 77-year-old man underwent repair of a reducible right inguinal hernia at the Veterans Administration Hospital, San Francisco, in July 1957. He reported a previous operation for "a tumor" but the records were not currently available to further qualify the nature of this illness. In a preoperative physical examination, including roentgen studies with barium enema, no evidence of active disease was observed. The surgical specimen was a wrinkled membrane, $2 \times 0.5 \times 0.5$ cm., showing no unusual features. Histologically, however, an unsuspected implant of adenocarcinoma was observed in the hernial sac wall. Subsequent clinicopathologic correlation indicated removal of an adenocarcinoma of the colon 16 months previously at another hospital (Figures 1 and 2).

CASE 2. A 61-year-old man had a left inguinal hernia repaired at the Veterans Hospital in February 1958. The hernia had been present three years. The patient's health was generally good with the exception of transient obstruction of urinary flow, attributed to an enlarged prostate. The surgical specimen consisted of two filmy membranes and 28 gm. of fat. Upon histological examination of the membranes nests of malignant cells in a pattern suggestive of adenocarcinoma were seen below the mesothelial surface. The primary site had not been determined at the time of this report although roentgenograms showed evidence of enlargement of multiple pulmonary nodes.

CASE 3. In March of 1957 a woman 57 years of age had elective repair of a right inguinal hernia

- Careful microscopic examination of excised hernial sacs would appear to give evidence of neoplastic disease—often unsuspected otherwise—in a sufficient proportion of cases to warrant this exercise of thoroughness. In five cases herein described, valuable information was obtained by this means.



Figure 1.—Gross hernial sac as removed from formalin fixative (Case 1). Enlarged six times. Tumor nodule (T) is indistinguishable grossly from adjacent globules of peritoneal fat.

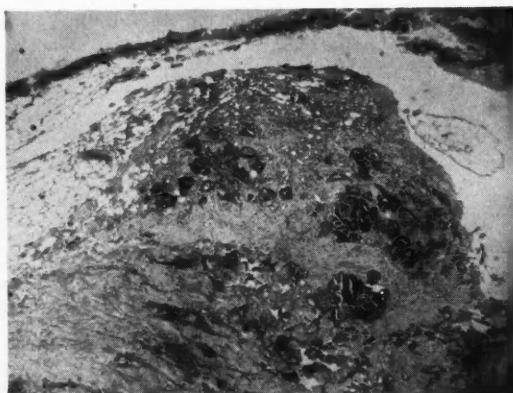


Figure 2.—Microscopic view of section of tumor nodule (Case 1), showing well differentiated adenocarcinoma (hematoxylin-eosin stained, $\times 37$).

From the Laboratory Service of the Veterans Administration Hospital, San Francisco 21.

Submitted April 8, 1959.

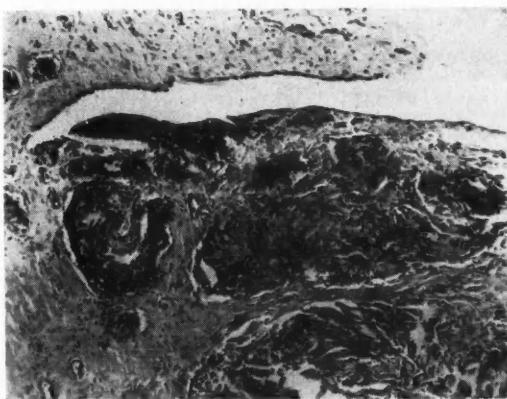


Figure 3.—Microscopic section showing fibrous type of presumably benign mesothelioma (Case 4). Note proliferative transformation of surface mesothelium. Hematoxylin-eosin stained, $\times 37$.

at St. Luke's Hospital, San Francisco. The gross hernial sac specimen showed a few yellowish-white elevations on the smooth surface, the largest being 0.7 cm. in maximum dimension. Microscopically sections of these elevated areas were seen as well differentiated implants of adenocarcinoma. A week later the abdomen was explored and the primary neoplasm, a cystadenocarcinoma of the right ovary, was removed.

CASE 4. The patient, a man 55 years of age in generally good health, entered St. Luke's Hospital, San Francisco, in May 1957 for repair of a right inguinal hernia. Gross examination of the removed hernial sac showed a few tiny excrescences on the mesothelial surface. Histologically these multiple growths had the pattern of fibrous mesothelioma originating locally and presumably benign (Figure 3).

CASE 5. A 68-year-old man had left inguinal herniorrhaphy at the VA Hospital, San Francisco, in August 1957. The gross specimen was composed of three pieces of gray membrane and two fragments of fat, the largest piece being 8 x 3 x 2 cm. Six random sections were examined. Microscopically, the hernia sac showed cuboidal metaplasia of the mesothelium; and set amidst properitoneal adipose tissue was a nodule of perfectly formed adrenal cortex.

DISCUSSION

In two of the above examples (Cases 2 and 3) latent carcinoma was detected solely by histologic study of otherwise "routine" hernial sac tissue. In Case 1, histologic methods provided positive evidence of recurrence of cancer in advance of clinical

manifestation. In Case 4, a rare neoplasm was diagnosed only because the hernial sac was minutely examined and proper sections taken. In all of these instances important clinical information was obtained.

In the performance of indirect herniorrhaphy tissue is removed from the body in 97.7 per cent of cases.⁹ It would seem almost certain that of the thousands of hernial sacs received by pathologists every year, a certain proportion, admittedly small, will be made up of more than prosaic fat, connective tissue and mesothelium. From the statistical information available, the most serious morphologic hernial sac abnormality, neoplastic disease, is rare. The surgical pathology catalogue at the Veterans Administration Hospital in San Francisco, containing over 800 sections of hernial sac tissue filed since 1948, holds only two examples of tumor (reported herein) plus one of malignant mesothelioma which is not considered here because its nature was fully appreciated before operation. Communication with the Armed Forces Institute of Pathology in August 1957 indicated that its vast files held records of only five benign hernial sac tumors and none of malignant.

Pertinent literature is likewise sparse. Standard textbooks of surgery and even monographs on hernia usually pass over neoplastic complications in silence. Although the first example of tumorous hernia was recorded over 200 years ago,¹ Gross-Devaud's comprehensive review in 1903 listed only 15 acceptable cases plus one original example. More recent reports have indicated that metastasis to hernial sacs has arisen in such primary sites as the large bowel,^{3,4,8} stomach,² bladder,¹⁰ pericardium,¹³ tonsil,¹³ and skin (disseminated melanoma).⁵ In most such cases, metastasis was by transperitoneal spread to hernial sacs. Melanomas, however, probably arrive through vascular channels. Such focal, nodular implants in hernias are to be distinguished from instances of tumor involvement in which a neoplastic viscous lies incarcerated in the sac or direct extension of a local tumor has occurred. As a rule the former come as surprises when the sac is properly examined whereas the latter are usually obvious at the time of preoperative physical examination.

There have been reports of primary hernial sac tumors,^{3,7,14} usually myxoid in appearance and many of them classified as sarcomas. Some observers are probably correct in maintaining that at least some of these bizarre tumors really are atypical patterns of metastatic adenocarcinoma.^{6,11} Less controversial is the fact that primary mesotheliomas can occur in hernial sacs. Our limited experience with two cases of malignant mesothelioma (one in a hernial sac) urges caution in prognosis, even if the

tumor shows the pattern of the so-called "benign fibrous" variety (Case 4). There is no definite indication that mesotheliomas have a greater tendency to arise in the "irritated" tissue of a hernial sac than from other mesothelial surfaces.

As to non-neoplastic abnormalities in hernial sacs (Case 5), little need be said other than that more often than not they are but academic curiosities. Adrenal cortical tissue has been observed on a number of occasions in hernial sacs, and it is said to be present in the sac in 1 per cent of children who have repair of inguinal hernia.¹² Watson's monograph also mentioned esoterica such as helminthic parasites in hernias. Pagliani¹³ cited observation of decidual change in this location in one case.

Hernial sacs are peritoneal biopsy specimens. Although discrete foci of neoplastic disease are seldom seen in them, this fact alone does not justify omitting to look for it by ordinary laboratory methods, including microscopic examination of representative sections.

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ACKNOWLEDGMENT

The author thanks Dr. Melvin Black, Pathologist of St. Luke's Hospital, San Francisco, for supplying data for Cases 3 and 4.

REFERENCES

1. Arnaud, G.: *Traité des hernies ou descendentes*. Vol. 2, Paris: Le Mercier, 1749.
2. Champeau (?), and Seylan, H.: *Pseudo-étranglements herniaires par métastase cancéreuse*, *Arch. des maladies de l'appareil digestif*, 38:937-939, 1949.
3. Fieber, S. S., and Wolstenholme, J. T.: Primary tumors in inguinal hernial sacs, *Arch. of Surg.*, 71:254-256, 1955.
4. Gerhardt, F.: *Conlontumor in einem Leisterbruch*, *Deutsch. Zeitschr. f. Chir.*, 250:742-744, 1938.
5. Goldberg, S.: Present aspects of melanomas, *Abstr. Excerpta Medica*, 4:1294-1295, 1950.
6. Gros-Devaud, L.: *De la carcinose herniaire*. Thèse, Paris: Société d'impression et d'addition, 1903, 75 pp.
7. Hertzler, A. E.: *The Peritoneum*. Vol. 2. St. Louis: C. V. Mosby, 1919, pp. 694 and 780.
8. Pagliani, F.: *Tumore del sacco erniario*, *Bull. delle scienze mediche*, Bologna, 109:108-119, 1937.
9. Richard, M.: *Über Tumorbildungen in Hernien*, *Deutsch. Zeitschr. f. Chir.*, 226:146-152, 1930.
10. Rolleston, H. H.: *Tr. Path. Soc. of London*, 44:109-110, 1893.
11. Ryan, M. A.: An analysis of 313 consecutive cases of indirect sliding inguinal hernias, *Surg. Gyn. & Obstet.*, 102:45-48, 1956.
12. Tschudi, E.: *Carcinom des Bruchsackes*, *Correspondenzblatt f. Schweiz. Arzt.*, 33:518-520, 1903.
13. Watson, L. F.: *Hernia*. St. Louis: C. V. Mosby, 1948, pp. 35-37.
14. Willis, R. A.: *The Pathology of Tumors*. London: Butterworth & Co., 1953, pp. 180-185, 370 and 408.
15. Zimmerman, L. M., and Laufman, H.: Malignant tumors in hernial sacs, *Arch. of Surgery*, 41:1215-1219, 1940.

California Medical Association Medical Motion Pictures

DAYTIME FILM SYMPOSIUMS, like those that were so popular during the 1959 Annual Session of the California Medical Association, are being planned for the 1960 meeting. Evening film programs will be planned for physicians, their wives, nurses and ancillary personnel.

Authors wishing to show films should send their applications to Paul D. Foster, M.D., California Medical Association, 2975 Wilshire Boulevard, Los Angeles 5. All authors are urged to be present, as there will be time allotted for discussion and questions from the audience after each film.

Tentative plans are being made for Symposia in the following fields: Pediatrics, Diagnostic Features of Cancer, Emergencies in Medicine, Anesthesiology for General Use, New Advances in Medicine and New Methods in Surgery.

Films that would fit into programs in one of these fields would be especially appreciated.

Deadline is October 1, 1959.

Recurrent Carcinoma of the Rectum

Surgical Treatment

B. RICHARD JACKSON, M.D., and WILLIAM H. DANIEL, M.D., Los Angeles

ONE OF THE MOST baffling problems in modern surgical therapy is the treatment of recurrent carcinoma. Treatment is highly individualized, variations depending on multiple, specific factors and findings. In a large majority of patients the primary concern is the relief of symptoms. Secondarily and hopefully, in full recognition that the survival or curability rate will be extremely small, it is to prolong life. In each case decisions must be made as to how much or how little to do. It is the purpose of this presentation to discuss the common types of recurrence following operations for carcinoma of the rectum and the various surgical procedures that are employed in the treatment.

Most surgeons treating large numbers of patients with carcinoma, come to the realization that, irrespective of the type, size, location or extent of the lesion only a generalized guess can be made as to its future behavior. This individuality of carcinomas necessitates individualized methods of treatment. Therefore, successful treatment of any carcinoma, primary or recurrent, depends not only on the experience, judgment and limitations of the surgeon and the condition of the patient, but apparently also on factors of which we have little knowledge and cannot control. Whether there actually exist variations in host resistance or biologic predeterminism⁵ of neoplasms makes little difference in our current methods of treatment. Since we have no control of these unknown factors, we must fit the treatment to the circumstances in each case on the basis of our present limited knowledge.

Often patients return with obvious recurrence and evidence of distant metastasis. X-ray studies may show pulmonary or bony involvement. The liver may be enlarged and there may be ascites, or there may be other signs of obvious generalized carcinomatosis. Except to prove the diagnosis, there can be few if any indications for operations in these patients. Yet it should be emphasized that even in these cases it is mandatory to prove the findings are the result of recurrent carcinoma. There can be no excuse for overlooking or misdiagnosing a primary carcinoma of the lung, for example, or hepatic cirrhosis or other entirely unrelated disease.

There are other cases, however, in which there are

- Following operations on the rectum for carcinoma, approximately half of the patients have recurrence in the perineum, pelvis, abdomen or at the suture line of anastomosis. The prognosis is almost uniformly poor and although the problems of management are complicated, dealing with them may give the patient worthwhile physical, emotional and economic benefits. Surgical procedures used in the treatment of the common types of recurrence are discussed.

signs of recurrence but definite indications for operation—palpable masses, pain, bleeding, signs of obstruction, lesions or suspicious conditions visualized sigmoidoscopically or in x-ray studies. Once the diagnosis has been established, careful thought must be given to whether some surgical procedure might reasonably be expected to benefit the patient or might only increase his illness or hasten his death. Many patients with recurrent carcinoma seem to have a rapid deterioration of condition after surgical intervention. Crile² expressed belief that even simple laparotomy in some patients may speed the dissemination of cancer. In studies currently being carried out on the dissemination of cancer in animals, controlled experiments have given evidence that the stress reaction initiated by simple skin incisions increases the growth and dissemination of cancer.

As to the opinion that the wide removal of invaded lymph nodes seems to hasten the spread of the disease by removing natural lymph barriers, we have observed patients in whom this apparently was the case, yet there were others in whom the disease appeared to be retarded or unaffected. The continuing argument as to the choice between conservatism and super-radicalism in operations for cancer probably cannot be settled until some accurate method can be found for determining the individual biologic characteristics or metastatic potential of each tumor. Meanwhile each surgeon treating each patient must be guided by his experience and his clinical impressions, tinted with optimism and the promise of tomorrow. Although current methods of treatment are in the main unsatisfactory and unrewarding, to avoid any tendency toward under-treatment we have adopted the attitude so ably expressed by Ferguson³ that the patients should be treated with the idea of doing the most good, not the least amount of harm.

Presented before the Section on General Surgery at the 88th Annual Session of the California Medical Association, San Francisco, February 22-25, 1959.

From the Department of Surgery (Proctology), University of Southern California School of Medicine, Los Angeles 33.

From this hopeful point of view it is obvious that the early diagnosis of recurrent carcinoma is of the utmost importance. Hence, regular periodic post-operative examinations are advisable. If there is to be recurrence, it is most likely to happen in the first two years. If the surgeon has a firm understanding with each patient from the beginning as to the necessity for these examinations, a high proportion will return regularly. We feel strongly that sigmoidoscopy or coloscopy should be carried out in addition to a careful examination of the abdomen, pelvis and perineum. Also x-ray examinations of the colon should be done at regular intervals of a year or two.

The rectum is the most frequent site of carcinoma in the gastrointestinal tract. Regardless of the level of the lesion in the rectum, the most commonly employed surgical treatment is combined abdomino-perineal resection with permanent abdominal colostomy. A common site of recurrence is the perineum. Frequently the lesions are entirely local, involving only the scar, and wide excision can be curative. Sometimes when there is merely a suspicion of a mass, exploratory incision is necessary to confirm a diagnosis of recurrence. The technique of excision used in such cases resembles that used in dealing with malignant disease of the breast. First the exploratory incision should be closed in order to prevent recurrence from desquamation in the wound. Then, after a change of gloves and instruments, wide excision is performed, the wound flushed with Chloropactin (monoxy chlorosene) or nitrogen mustard and left open to granulate and heal by secondary intention. If the tumor is anterior, excision of the posterior vaginal wall usually is necessary in women, and in men it may be necessary to do a wide dissection of the anterior triangle and resection of the prostate. Persistence of a sinus tract or failure of the perineal wound to heal should arouse suspicion of recurrence. In these circumstances exploration is in order, and wide excision if indicated. If the lesion is too extensive for complete excision, we leave a catheter deep in the wound, surrounding it with loose gauze packing, for instilling 30 mg. of nitrogen mustard daily for three successive days. In one case in which there was obvious extension of the perineal recurrence into the bladder, complete healing of the perineum followed this procedure and the patient had no further complaints for 19 months of observation up to the time of this report.

Not infrequently suspicion of recurrence is first aroused by colostomy dysfunction or intermittent signs of obstruction. If recurrence is found at laparotomy, there can be little hope of cure. Commonly in such cases a loop of small bowel is bound down and obstructed by dense carcinomatous masses. Often the masses involve the bladder or ureter. When the loop of bowel can be resected without

vigorous handling or the risk of damage to adjacent vital structures, resection and anastomosis is performed. If resection entails laborious and risky dissection with probability of scattering viable cancer cells, a short-circuiting procedure, enteroenterostomy or enterocolostomy, in a relatively cancer-free area of the abdomen is the procedure of choice.

For carcinomas occurring in the middle of the upper rectum, many surgeons are using sphincter-saving procedures, either the abdomino-perineal proctosigmoidectomy (pull-through procedure) or the anterior resection with low primary anastomosis. One less obvious advantage of the use of either procedure is the possibility of earlier detection of local recurrence by digital or sigmoidoscopic examination. With evidence of recurrence in the perineum, pelvis or at the suture line, the surgeon is faced with the possible need to do a combined resection with permanent colostomy, or perhaps palliative fulguration. Usually no decision can be made until the abdomen is explored and the extent of the recurrence determined. Local extension to the bony pelvis, bladder or female organs may be contraindications to removal of the growth. On the other hand, distant metastasis, to the liver or lungs, may not gainsay resection provided there is a clear-cut indication for it. If combined resection is not done, diversion colostomy should be reserved for patients with impending obstruction, for in our experience, many patients in such circumstances die before obstruction can develop, and without the additional burden of colostomy. A question for consideration when operation for recurrent carcinoma is being contemplated is whether the comfort of the patient might not be served as well by adequate use of narcotic drugs.

It is not within the scope of this paper to discuss the use of chemotherapy and supervoltage radiation in the management of recurrent rectal carcinoma. In the increasing medical literature on the subject there are encouraging reports of palliation by these agents. Many of the patients we have operated on have received combined therapy with evident benefits.

We believe that too often patients with recurrent and incurable carcinoma are abandoned to physical, emotional and economic suffering, and that they deserve treatment, not in spite of but because of the hopelessness.

1930 Wilshire Boulevard, Los Angeles 57 (Jackson).

1. Cole, Warren, personal communication.
2. Crile, G., Jr.: Factors influencing the spread of cancer, *Surg., Gynec., Obst.*, 103:342, 1956.
3. Ferguson, L. K., and Edwards, M. H.: Cancer and the reluctant surgeon, *Am. J. Surg.*, 93:356, 1957.
4. Herrman, S. F.: Second operations for uncontrolled abdominal or pelvic cancer, *Am. J. Surg.*, 96:281, 1958.
5. MacDonald, K. G.: Biologic predetermination in human cancer, *Surg. Gynec. Obst.*, 92:443, 1951.



CASE REPORTS

Malignant Melanoma in Pregnancy

M. BENNETT MARCUS, M.D., and
JOSEPH FAGIN, M.D., Long Beach

MALIGNANT MELANOMA is a cancerous state that most obstetricians rarely see. Only 46 cases of this disease coincident with pregnancy have been described in the literature. This condition was first reported by Hirst³ in 1905; then by Dawson² who, in a classical monograph on melanomas, discussed a case of malignant melanoma occurring in a woman 33 years of age who died in the last trimester of pregnancy. Because of the manifold problems involved when this pathologic entity is associated with gestation a further additional case report and an analysis of the literature is offered.

Incidence and Age Group

In a recent study by Vogler and co-workers⁶ it was noted that in 2.7 per cent of all patients with cancer the lesion was melanoma. No statistics are available on the incidence of this condition in the pregnant state. In a five-year period it was observed at St. Mary's Hospital, Long Beach, in the ratio of 1:10,342 obstetrical deliveries. Pack and Scharnagel,⁵ who dealt with 32 cases of malignant melanoma incidental to pregnancy, reported that 43.7 per cent of the patients were in their twenties and 53.3 per cent were in their thirties.

Pathology

There are two primary groups of malignant melanomas, those that occur in the prepuberty period and those occurring after the signs of sexual maturation have started to appear. The prepuberty melanoma is indistinguishable either on clinical or microscopic examination from the melanomas of the sexually mature individual. It is noteworthy that the prepuberty melanoma rarely metastasizes to lymph nodes or viscera. In a series of some 1,050 patients having malignant melanoma, Pack and Scharnagel did not find a single instance of such metastasis, nor were they able personally to confirm any reported instance of spread to those sites. The prevailing view is that the prepuberty melanoma, while under the influence of some hormonal change associated with sexual maturation, is so activated as

to be converted from a so-called benign to a malignant tumor.

Byrd and McGanity¹ observed that between ensuing pregnancies there are latent periods with quiescence or recession of the tumor. Malignant melanoma is apparently a hormone-sensitive tumor. Because of the great increase in hormone production, it is evident that pregnancy is a stimulating factor in the growth and development of malignant melanoma. Pack and Scharnagel reported a series of 39 patients in which there was some relation between the occurrence of a melanoblastic neoplasm and pregnancy. So, although the evidence is mostly clinical, there seems to be little doubt that pigment deposition and exacerbations of tumors arising from melanoblasts is excited by sexual maturation and by the pregnant state.

Placental Transmission

In rare cases malignant melanoma produces secondary deposits in the placenta or fetus.⁴ Melanoma is characterized by widespread and non-selective localization of metastatic lesions. There is little hazard to the infant from its own prepupal melanoma, but apparently no resistance to the growth and dissemination of a homologous graft of melanoma cells from the mother transmitted through the placenta. The metastatic melanoma in the placenta invades the chorionic villi and permeates the intravillous capillaries, blood-borne metastasis occurring first in the liver via the umbilical vein, and later becoming generalized throughout.

REPORT OF A CASE

The patient, a 33-year-old married Caucasian woman with one child was approximately 10 to 12 weeks pregnant when she consulted a physician January 16, 1953. Physical findings and results of laboratory studies were in accordance with this stage of gestation. A raised dark pigmented lesion, 3 x 2 cm., was observed in the left submandibular area. The patient said that it had first appeared two years previously, one year after parturition. On March 20, 1953, when the patient was seen again, the pigmented lesion was carefully examined and was found to be unchanged. When the patient was next examined, in the twentieth week of pregnancy the lesion had increased to 3.5 x 2 cm. and was pal-

From St. Mary's Hospital, Long Beach.
Submitted February 27, 1959.

pably firmer. A surgical consultation was obtained, and a wide excision of the submandibular area was recommended. At this time there were no palpable cervical or axillary lymph nodes and no abnormalities were noted in x-ray films of the chest.

On April 26, 1953 a wide elliptical excision included removal of the tumor area, the regional lymph nodes (including the submandibular area) about the neck, and an intensive dissection of the underlying fat and fascia down to and exposing the muscles over this area. The pathologist's diagnosis was localized malignant melanoma. The patient was dismissed from the hospital within a week. At an office visit on May 10, 1953 the fetal heart was well heard in the right lower quadrant of the abdomen and pulsations were 128 a minute. The fundus was 28 cm. above the symphysis and the fetus was in vertex presentation. On July 20, 1953, the patient was delivered of a normal boy, weighing 7 pounds and 10 ounces, without undue difficulty from the right occipito anterior position by means of low outlet forceps and mid-line episiotomy. There were no postpartum complications. The patient was regularly observed every 12 weeks during the first year, and then in the intervening four years was observed biannually. She was last seen on June 16, 1958. No subsequent melanotic growth changes were noted in the operative area. The patient has had no further pregnancies although no operative sterilization techniques were performed.

Role of Therapeutic Abortion

Since it is well known that hormonal factors attendant in puberty and pregnancy stimulate the growth and dissemination of malignant melanoma, one might think that interruption of pregnancy

would serve as a mitigating influence on this condition. However, it has been shown to have no such effect. Once the dynamic growth propensities of the melanoma are established, nothing short of all-encompassing surgical excision of the lesion has been found to be of even slight effectiveness in checking this momentum. In light of the hormonal associations, it is inadvisable that a woman become pregnant again within three years of an apparent cure of melanoma.

601 South Palm Street, Anaheim (Marcus).

SUMMARY

A case of malignant melanoma coexistent with pregnancy has been presented, the forty-seventh case in the literature. Suitable operative therapy was carried out and the patient had no recurrence during five years of observation.

REFERENCES

1. Byrd, B. F., Jr., and McGanity, W. J.: Effect of pregnancy on clinical course of malignant melanoma, *So. Med. J.*, 47:196, 1954.
2. Dawson, J. W.: The melanomata: Their morphology and histogenesis, *Edinburgh M. J.*, 32:501, 1925.
3. Hirst, B. C.: Textbook of Diseases of Women, W. B. Saunders, Philadelphia, 1905, p. 102.
4. Holland, E.: Case of transplacental metastasis of malignant melanoma from mother to fetus, *J. Obst. & Gynec. Brit. Emp.*, 56:529, 1949.
5. Pack, G. T., and Scharnagel, I. M.: The prognosis for malignant melanoma in the pregnant woman, *Cancer*, 4:324, 1951.
6. Vogler, W. R., Perdue, G. D., and Wilkins, S. A. Jr.: A clinical evaluation of malignant melanoma, *Surg., Gynec., & Obst.*, 106:586, 1958.

An Unusual Case of Carcinoma of the Esophagus

JOHN J. BAZZANO, M.D., San Francisco and
JAMES C. KING, M.D., Red Bluff

USUALLY IN CASES of carcinoma of the esophagus the prognosis is poor. Reports of five-year survivals range from 15 to 30 per cent and five-year cures are quite rare. In the case here presented the progress of the tumor defies obvious explanation.

REPORT OF A CASE

A 66-year-old white woman was admitted to St. Joseph's Hospital in November of 1952 with chief complaint of progressive dysphagia for approximately a month. No abnormalities were observed on physical examination. X-ray studies of the

esophagus (Figure 1) were reported as showing "a filling defect extending for 10 cm. above the diaphragm but spanning the cardio-esophageal junction and the upper end of the stomach.

At esophagoscopy an ulcerated, completely occluding lesion was observed at the lower end of the esophagus. A specimen was identified as carcinoma (Figure 2).

Through a left thoracic incision, the lower third of the esophagus was surgically excised and the remaining portion of the esophagus was joined to the proximal end of the stomach just below the aortic arch. The pathologist reported that the tumor extended deep into the muscularis and that there were verruca-like implants arising from the mucosa near the lower end of the resected specimen. There was no evidence of spread to lymph nodes. The patient recovered satisfactorily from the operation and was discharged from the hospital.

On esophagoscopic examination five months later

Submitted April 23, 1959.



Figure 1.—Roentgenologic appearance of tumor in November, 1952.

an indurated area was observed at the suture line and a specimen from the site was reported as epidermoid carcinoma. A roentgenographic examination of the gastrointestinal tract was reported to show a normally functioning stoma but a "filling defect in the upper stomach, probably a local recurrence."

The patient, however, was clinically asymptomatic; and since the original operation had been looked upon as only palliative, she was examined periodically for the next four and a half years without any attempt at further treatment. An x-ray examination carried out in January 1956, some three years after operation, showed the stoma functioning promptly but "indolent recurrence in the lower end of the esophagus and possibly in the upper end of the stomach." Not until September of 1957 did the patient begin to complain of recurrence of dysphagia. Three weeks later she was admitted to the hospital and a roentgenographic examination showed "a recurrent neoplasm in the lower esophagus, with progression since the previous study, and involvement of the fundus. In addition, the possibility of retroperitoneal extension and pre-aortic node involvement is suggested by the indentation of the second portion of the duodenum." (See Figure 3.) Since the patient was having difficulty in swallowing even liquids, surgical exploration was

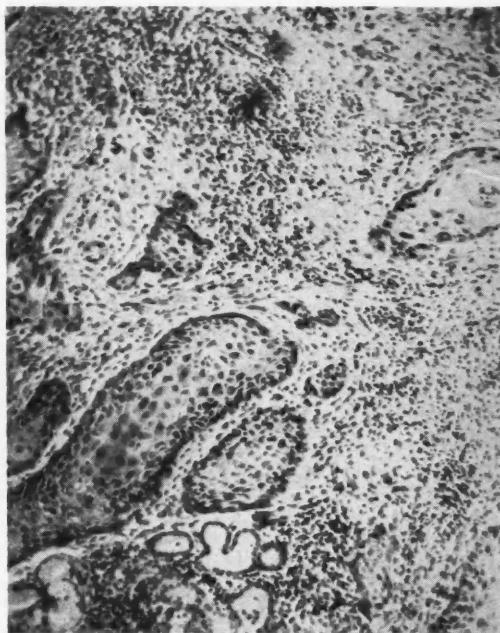


Figure 2.—Microscopic (high power) appearance of carcinoma in 1952 (400 \times).



Figure 3.—Roentgenologic picture of tumor in November, 1957.

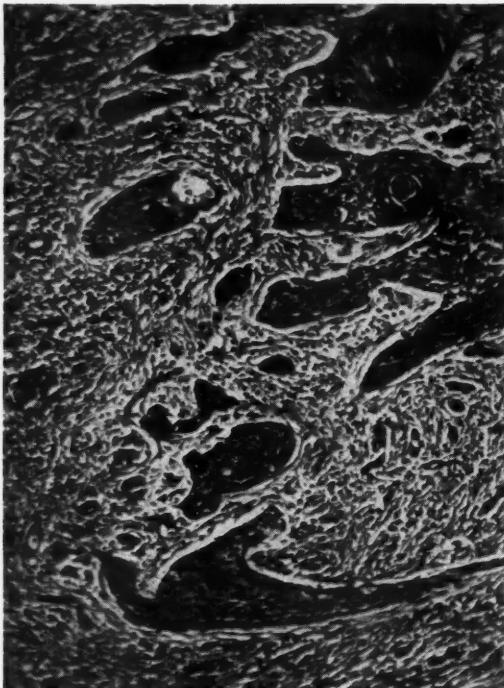


Figure 4.—Microscopic (high power) appearance of lesion in 1957 (400X).

carried out with the intention of performing jejunostomy for feeding purposes. However, when the abdomen was opened and no evidence of recurrent tumor was seen, the right thorax was explored and

a tumor mass apparently still confined to the esophagus was seen. When no malignant disease was noted on multiple biopsy of abdominal lymph nodes by frozen sections, resection of the remaining portion of the thoracic esophagus and the old anastomosis was carried out. The pathologist's report on the new specimen indicated the presence of a fungating, ulcerating tumor identified as squamous cell carcinoma within the lumen of the esophagus. There was no evidence of extension of the tumor beyond the specimen. Small areas of invasion of muscle were evident. The patient recovered promptly from the operation, postoperative course was entirely uneventful, and a year later she was without complaint and without further symptoms.

DISCUSSION

The foregoing case is particularly unusual in that although recurrence of the tumor was present six months following the original palliative resection, it still had not spread five years later. One must wonder what factors in tumor growth or patient resistance could account for this behavior. The sequence of events again emphasizes that the progress of a carcinomatous lesion is unpredictable. Although cases like the one here presented are relatively uncommon, it does serve to illustrate that physicians should be extremely reluctant in any case to conclude that the prognosis is hopeless. The authors believe that in any case of carcinoma of the esophagus in which there is no obvious metastasis and the patient's general health is satisfactory, surgical exploration and local excision should be done if at all possible.

60 Vicente Street, San Francisco 27 (Bazzano).

Hepatohypercholesterolemic Cirrhosis

Report of a Case Implicating Chlorpromazine As the Etiologic Agent

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JACK M. FARRIS, M.D., Los Angeles, and
GEORGE R. FREMPER, M.D., Temple City

THE FOLLOWING is a report of a case of jaundice with progression to hepatohypercholesterolemic cirrhosis in a patient who had been taking chlorpromazine.

The patient, a 28-year-old married white woman who had traveled from Detroit to Los Angeles by automobile, began to have malaise, epigastric discomfort, and slight chills and fever about a week after her arrival. She consulted a physician a few days later and was told that she had gastritis. Donnatal® (hyoscyamine sulfate, atropine sulfate, hyoscine hydrobromide and phenobarbital) was prescribed, one tablet four times a day. Five days

later she returned to the physician with complaint of generalized pruritus, grey stools, dark urine and continued malaise. The diagnosis of infectious hepatitis was made and bed rest and dietary regime at home were prescribed.

After some five weeks the patient was admitted to hospital because of increasing jaundice and enlargement of the liver. Further interrogation at that time elicited that just before she left Detroit a psychiatrist whom she had been seeing at weekly intervals because of emotional and marital problems had prescribed chlorpromazine, two 25 mg. tablets daily to be taken for motion sickness while enroute to California. The patient said that she had taken 16 or 18 tablets during the trip. She said she had not received any medicines, injections or blood tests in the six months before leaving Detroit.

Upon physical examination the patient was observed to be well developed, well nourished and deeply jaundiced. There were numerous excoriations of the skin. The blood pressure was 122/74 mm. of mercury, the pulse rate 82 and respirations 16 a minute. The weight was 103 pounds. The liver

Submitted March 30, 1959.

was tender and palpable two fingerbreadths below the right costal margin in the midclavicular line. The edge was smooth.

Results of hematologic tests were as follows: Serum bilirubin (direct) 10.5 mg. per 100 cc., (total) 24.4 mg. per 100 cc.; serum albumin, 5.2 gm. and globulin, 3 gm. per 100 cc.; prothrombin time, 100 per cent; cephalin flocculation, negative in 24 and 48 hours; thymol turbidity, 2.7 units; alkaline phosphatase, 11 King-Armstrong units.

After 43 days of increasing jaundice, laparotomy was done. The liver was moderately enlarged, grey-green, smooth surfaced; and the extrahepatic biliary tree, including the gallbladder, was collapsed. There were no enlarged lymph nodes in the hepatoduodenal and hepatogastric ligaments. No other pathologic changes were noted elsewhere in the abdomen. The pathologist's report on a specimen of liver excised for biopsy was as follows:

"The most conspicuous feature histologically is dilatation and distention of many biliary canaliculi by masses of granular brown pigment. The reticuloendothelial cells also contain comparatively large amounts of granular brown pigment. The microscopic diagnosis is diffuse dilatation and distention of biliary canaliculi by inspissated bile pigment with associated mild parenchymatous degeneration. The changes observed in this tissue were similar to those which have been previously described in persons in whom jaundice developed following the administration of a chlorpromazine drug."

The patient, still jaundiced, was discharged from the hospital 12 days after the operation. At that time the serum bilirubin, direct, was 15.1 mg. per 100 cc., the total serum bilirubin was 32.2 mg. per 100 cc., and the alkaline phosphatase was 21.5 King-Armstrong units. About a month after discharge from the hospital the patient returned to Michigan. Jaundice had not abated. In correspondence with the Department of Internal Medicine of the University of Michigan where the patient was observed, it was learned that five months after she left California she had a blood cholesterol content of 2,200 mg. per 100 cc. Cutaneous xanthomatous lesions had developed. The alkaline phosphatase at that time was 59.4 King-Armstrong units. Total serum bilirubin was 23.4 mg. per 100 cc.

DISCUSSION

We believe that the case herein reported was one of chlorpromazine jaundice which progressed to hepatohypercholesterolemic cirrhosis. Liver sensitization to chlorpromazine occurs in about 20 per cent of patients receiving this drug.⁵ Spontaneous desensitization usually follows and jaundice occurs only in 1 to 5 per cent.^{2,5} The jaundice usually subsides rapidly on discontinuance of the medication but it may last for long periods and may be responsible for altered lipid metabolism and subsequent pericholangiolitic biliary cirrhosis (primary biliary cirrhosis or hepatohypercholesterolemic cir-

rhosis).^{2,5} The hepatic changes attributed to the drug have also been reported to contribute to fatal outcome.¹ Kelsey and co-workers³ urged limitation in the use of chlorpromazine because of these complications.

The most likely cause of the hepatitis in these circumstances is a drug sensitivity reaction. This conjecture is supported by the fact that there is a latent period, that peripheral eosinophilia occurs in about 50 per cent of the cases, and that maculopapular rash, urticaria or asthma and periportal eosinophilia also are associated conditions. Menguy and co-workers⁴ suggested on the basis of experiments in dogs that sphincter spasm may be the major factor in the obstruction to the outflow of bile. However, this phenomenon was observed only in cholecystectomized dogs that were given doses of 10 mg. per kilogram of chlorpromazine intravenously. Shay and Siplet⁵ noted four kinds of liver response to the drug: (1) No elevation of alkaline phosphatase (or normal response); (2) Liver sensitivity, indicated by a rise of serum alkaline phosphatase to abnormal levels, with return to normal levels on discontinuance of the drug and the alkaline phosphatase remaining normal on resumption of administration; (3) Liver sensitivity lost on continuation of the drug; (4) Liver sensitivity that progressed to jaundice in spite of discontinuing the drug. These investigators suggested that a screening test for detecting liver sensitivity to the drug (also other drugs such as arsenic, methyl-testosterone, dinitrophenol, thiuracil, and tolulylene diamine) should be carried out in the following manner: The serum bilirubin and alkaline phosphatase values should be taken at the start of therapy and the serum alkaline phosphatase determinations should be repeated two times weekly for the first three weeks of therapy. If the values went above normal, the drug should be discontinued until the values of serum alkaline phosphatase returned to normal, and the drug might then be started again. The serum alkaline phosphatase then should be determined twice weekly for the next ten days and the drug could be continued if the values did not again rise above normal, which they believe would indicate that desensitization of the liver had occurred.

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REFERENCES

1. Boardman, R. H.: Fatal case of toxic hepatitis implicating chlorpromazine, *Brit. M. J.*, 2:579, 1954.
2. Gebhardt, W. F., et al.: Chlorpromazine jaundice: Clinical course—summary of twenty cases, *A.M.A. Arch. Int. Med.*, 101:1085-1093, June 1959.
3. Kelsey, J. R., Jr.: Chlorpromazine jaundice, *Gastroenterology*, 29:865, 1955.
4. Menguy, R. B., et al.: Biliary stasis produced by chlorpromazine: An experimental study, *Proc. Staff Meet., Mayo Clinic*, 30:601, 1955.
5. Shay, H., Siplet, H.: Study of chlorpromazine jaundice, its mechanism and prevention: Special reference to serum alkaline phosphatase and glutamic oxalacetic transaminase, *Gastroenterology*, 32:571-591, 1957.

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EDITORIAL

Seminars on Medico-Economic Problems

MUCH HAS BEEN WRITTEN and spoken about the fantastic advances in medical science in the past decade or so. Diseases that have been literally abolished are cited as evidence of how far medicine has come in a short time. Surgical procedures of pre-war days that are virtually unknown today are listed in support of the advances of the profession.

Coincidentally, medicine has been faced with an ever-growing complexity of programs and policies, laws and regulations, which interject their presence between the physician and the patient.

Just 20 years ago California Physicians' Service was set up as the first medically sponsored statewide program of voluntary health insurance. Today C.P.S. remains as the vanguard in an amazing development and growth of all forms of voluntary health care insurance. From so small a beginning has grown the entire commercial insurance industry in health and accident insurance, the group prepayment plans and the many other forms taken by various ventures into the field of paying while well, receiving when sick, for health care coverage.

Along with the growth of these voluntary ventures has come the entrance of government into the field of publicly sponsored health care programs. Led off by the Veterans' Administration with its Home Town Care Program for service-connected disabilities, other agencies have come into the medical care picture for the coverage of other groups of citizens.

Today we find programs for rehabilitation, vocational rehabilitation, crippled children, the aged needy, the blind and others, all sponsored by federal or state governments or both. The mentally ill, the migrant farm worker and the indigent receive care paid for by governmental agencies. On top of these, proposals are now before our legislative bodies to

define new groups who will receive the benefits from government-sponsored and financed medical care programs. Included in such groups are Social Security beneficiaries above the age of 65 years and the multitudinous employees of federal and state governments.

The physician today must not only keep up with the rapid advances in medical science; he must also stay abreast of the growing list of beneficiaries of government programs, if only to keep his own records straight and assure his receiving whatever fee is allowed for his services.

Obviously, this is no easy job. The busy doctor, who cannot find the time he would like to give to study of his own professional journals, certainly cannot be expected to study and digest the numerous rules, regulations and legal provisions surrounding each of the many governmental programs now written into the statutes or under discussion for possible future enactment.

It is at this point that medical organizations can perform a service in the field of communications. Such organizations can assign staff personnel to the study and digesting of the various programs and to putting them into a form in which they may be easily understood and followed by individual physicians.

Recent experience, following the introduction of some of the more recent government medical care plans, indicates that there has been a lag between the effective date of a new program and its assimilation by the profession. This was vividly demonstrated just two years ago in the introduction of joint federal-state programs for medical services to the needy aged, the needy blind and needy children. While much of the initial groping on these programs has disappeared, it seems apparent that other plans will emerge which will create a similar situation of lack of information followed by distrust.

As a means of bringing communications up to date on these and similar developments, the California

Medical Association this year is planning a two-day session in Los Angeles, October 10 and 11. To this meeting will be invited the top officers and committee chairmen of the county societies.

There, those physicians and staff members who have devoted their time to the study of specific programs or plans will furnish digests of the numerous programs for the representatives of the county societies. There, those in attendance will be given the chance to bring forth their problems and their questions.

Topics to be covered will include government-financed medical care, privately financed medical care, fee schedules, public relations, problems of the aging, problems of the migratory farm worker. Taken with the many subdivisions under each major topic, the program will present a concise review, study and forecast of the problems and obligations of medicine in meeting the health care needs of

many groups of citizens and, in the case of farm workers, a large number of aliens as well.

The California Medical Association has held annual conferences of county society officers in the past and has attempted in those conferences to bring the county representatives up to date on the variety of problems facing medicine at the moment. This year the list of such problems is so long and so varied that a two-day session is required and the presence of additional county society representatives is indicated.

It is to be hoped that the communications between the C.M.A. on the one hand and the county societies and their members on the other may be greatly improved through this conference. The spoken word, especially where there is opportunity to question the speaker, should go a long way to bring about a better understanding of the socio-economic problems of the day.

Dealing with Third Parties

HOWEVER MUCH we may object in principle to the intrusion of a third party between physician and patient, organized medicine cannot blind itself to the fact that dealing with such parties is sometimes necessary if a patient is to be treated. Where that condition exists, our primary concern must always be the best possible medical care for every patient in whatever circumstances we find ourselves.

Where the circumstances are not ideal, we must do our best within their limits—and work to improve them.

Where existing conditions that are hospitable to the best medical care are threatened, we must resist.

In this day of growing tendencies toward pecuniary arrangement for medical care through third party organizations—insurance plans, labor organizations, government—it behooves us to inform ourselves on how to deal with what we cannot change, how to improve what can be improved, how to mount reasoning resistance to developments that appear to threaten ideal conditions for the care of patients.

One sensible way to go about informing ourselves in these respects is through the attendance of officials of medical societies at meetings such as the Invitational Regional Conference of the Committee on Insurance and Prepayment Plans of the American Medical Association which was held last month in Portland. Many officers and members of interested committees of the California Medical Association attended.

That reason, not prejudice, was the tone of the meeting is indicated by the titles of formal presentations on the program; five of seven were in the form of questions:

- ¶ What is the potential impact of the demands of labor unions (spokesmen) upon health insurance programs and medical society sponsored or approved plans?
- ¶ What are medical societies doing in reference to these demands?
- ¶ How can voluntary health insurance best compete with closed panel plans?
- ¶ What is being done for persons over 65 with "modest resources and low family income?" (Including consideration of further steps which can or should be taken to implement the recommendations of the House of Delegates.)
- ¶ Ways and means of impressing upon all physicians a recognition of the importance of events that are occurring as they relate to aging, health insurance and indigent care.
- ¶ A "National Congress on Prepaid Health Insurance" as authorized by the House of Delegates.
- ¶ What steps, if any, can or should be taken by the American Medical Association regarding the topics discussed?

These American Medical Association conferences are attended by various state association officials who are dealing with the problems concerned, and in addition the A.M.A. makes transcripts available to interested physicians who do not attend.

Seeking and disseminating information of the kind indicated in the foregoing titles is a reasonable approach to the problem of how to do the best we can do in today's circumstances.

Letters to the Editor...

To physicians troubled by the stridor of accusations made against our profession nowadays, the following letter must come as a sweet reminder that the one thought we held above all others when we were deciding to become physicians is still our animus. The names are changed, to protect the modest.

American Medical Association
535 N. Dearborn, Chicago 10, Ill.

Gentlemen:

I have just read an article in *Readers Digest* about Malpractice Suits Against Doctors. It is hard to believe because we've had such wonderful doctors.

I feel that writing to you and expressing our praise of two special doctors, who are undoubtedly associated with you, was the only way I could express our feelings. Hope it is in order, and that you enjoy hearing about outstanding doctors.

My family—me, my husband and our three sons, aged 11, 9 and 8—were in a serious head-on collision on August 17, 1958, and are still recovering from the multiple injuries.

We had just moved to Los Angeles two weeks before the accident and didn't know anyone. The accident occurred 60 miles outside of Los Angeles. We were all unconscious and moved by ambulance to an emergency hospital. . . . Several doctors came to our aid, and [one of them] performed delicate surgery on Norm, which saved his life.

A sister, when notified of the accident, took charge of our affairs. She authorized calling a neurosurgeon from Los Angeles since there were none locally and we all had skull fractures. [The one who was] summoned, came. He performed brain surgery on Ronald and Dennis and thereby saved the sight in Dennis' right eye. The optic nerve in the left eye was destroyed, but surgery saved his right eye and also saved his life. Ronald had brain surgery and was unconscious 12 weeks and now has a palsy condition because of injury to his motor nerves. [The neurosurgeon] suggested that the boys be moved to [a hospital nearer Los Angeles] where he was on the staff, so he could watch the boys constantly. . . . My sister had us all moved there. Dr. _____ called in various other doctors to care for us, and he picked the finest men available. Our main injuries required an orthopedic man and a neurosurgeon.

Dr. _____ is a fine, dedicated man. He pulled me and the boys through with his constant vigilance.

He called in [another doctor] for the orthopedic work. He diligently reconstructed our broken bones and now we all face a normal life because of these two wonderful men. They were more than doctors

—they were friends as well. They have never been too busy to talk with us; explain our injuries; and diminish our fears.

We are grateful to all the many doctors and nurses who took care of us, because we were complete strangers in a strange area. There was never a question of money brought up. The doctors, particularly Dr. _____ and Dr. _____, gave of themselves completely—their time, effort, skill and heart. . . . They visited us at least once and sometimes twice a day at the hospital, even on Sundays and holidays. When we were released to go home, they were always available to see us or answer questions.

We credit the lives of all of us to these two men primarily—to their unselfish use of time and to their skill and devotion to their profession.

I wish I knew of some way to tell the world about these wonderful men, because we hear enough about the inadequacies of doctors—so why not a word about these two, which is, I am certain, repeated over and over every day throughout the world. All the doctors we have known have been dedicated men who have put the caring of patients above themselves and their lives.

Labels on Medicine Bottles

THIS IS A PLEA to include the names of drugs on the labels stuck to the dispensed medicine bottles. Most prescriptions should bear the word "Label" below "Sig." The advantages of immediate identification of the contents are so obvious that examples of cases are perhaps unnecessary where this practice would have been desirable, imperative and even lifesaving. The empty bottle, or the one containing a nondescript tablet, can present an irritating, time-consuming, even dangerous puzzle: to a physician taking over the case, to a pharmacist, not to speak of the prescriber himself who may be caught without having access to his notes or, most abjectly, with notes altogether silent on the matter. The epileptics, addicts, suicides, any patient on vital substitution therapy are only the most blatant instances.

I am well aware of the objections, but also of the over-riding acclaim this proposal has found and will find among colleagues. Secrecy, professional mystery, placebo medication, protection against snooping have their place in rare cases which, of course, should be exempt from the labelling practice. But the common mid-twentieth century patient usually demands and enjoys the privilege of knowing what he is taking, at least by name. The reason why this name does not appear on his bottle is an outworn tradition, that "we have never done it be-

fore," or "we were not told to do it in medical school." We just haven't thought of it often enough. But the advantages are worth the effort of writing an extra five-letter word, or the print on the prescription blank, and the scratch where it does not apply.

FRANCIS SCHILLER, M.D.
San Francisco

Single Injury and Cancer

IN AN ARTICLE entitled, "Can a Single Injury Cause Cancer?", by Dr. Arden R. Hedge in the January 1959 issue of CALIFORNIA MEDICINE, it is my belief that the problem is discussed superficially and that numerous recent concepts relating to the pathogenesis of cancer are ignored. I note that except for a reference to a review article in *Cancer Research* concerned with the basic aspects of cell division the most recent reference in the bibliography is that to an article published by Dr. F. W. Stewart in 1944. During the intervening years, experimental and clinical observations suggest that the concept of trauma in cancer certainly is in need of review. The conclusions of Stewart¹ that "Attempts to rely on single trauma to explain cancer depend on the exercise of primitive forms of reasoning," and Downing² "—I have never been thoroughly satisfied that a single trauma ever caused cancer—" are in need of re-examination in light of recent investigations on the role of skin sensitization and cocarcinogenesis in the etiology of skin cancer. Special emphasis should be directed toward the part played by wound healing in its action as a promoting agent or cocarcinogen.

The concept of "sensitization" or "preparation" of skin by means of suboptimal exposure to carcinogenic hydrocarbons has been experimentally established by Berenblum,³ Berenblum and Shubik,⁴ Rous and Kidd,⁵ and Friedewald and Rous.⁶ The suboptimal exposure serves as an initiating phase by converting some of the cells in the skin of experimental animals to a preneoplastic condition. Following this stage, which Berenblum refers to as precarcinogenesis and which Rous refers to as the stage of initiation, nonspecific agents such as wound healing, freezing with carbon dioxide snow, croton oil, and mechanical irritation are capable of converting the skin to true neoplasm. Friedewald and Rous, in their experiments on rabbits, showed that wound healing may act as a promoting agent. Shubik in attempting to confirm this observation modified their technique and succeeded in producing skin papillomas at the site of the induced trauma. No malignant changes were observed at the time the animals were sacrificed. He did conclude, however, that wound healing was undoubtedly effective as a promoting agent.

The carcinogenicity of certain petroleum oils that are obtained from the fluid catalytic cracking proc-

ess has been demonstrated by Holt and his co-workers⁷ in experiments on mice, rabbits, and monkeys. They further concluded that, "Employees exposed to contact with these oils are believed to be exposed to an occupational cancer hazard."

A case reporting the "Possible role of trauma as a cocarcinogen" in an oil worker by Kotin and Kahler⁸ was recently published. Shimkin and his associates⁹ reported the appearance of a carcinoma following exposure to a refrigeration ammonia-oil mixture. They concluded, "In our opinion a causal connection can be reasonably postulated between the trauma and the exteriorization of a latent neoplasm as an example of a cocarcinogenic effect." Smith¹⁰ in a discussion of pulmonary cancer stressed that not only carcinogenic materials have to be considered but also cocarcinogenic agents which may be related or unrelated to the evoking agent.

An ever-expanding list of actual or potential carcinogenic agents is being introduced into the occupational environment as the result of newer industrial processes and the increased use of petroleum and its by-products. While exposure is admittedly kept at a minimum by industrial health control measures, suboptimal exposures to carcinogenic agents do occur with attendant danger of establishing the stage of initiation. In this light, the routine dismissal of trauma as a noncontributing factor to carcinogenesis should be replaced by the taking of a detailed occupational and environmental history of the patient to see if the process of cocarcinogenesis may have been a factor.

PAUL KOTIN, M.D.
Los Angeles

1. Stewart, F.: Occupational and post-traumatic cancer, Bull. New York Acad. Med., 23:145-162, 1947.
2. Downing, J. G.: Cancer of skin and occupational trauma, J.A.M.A., 148:245-252, 1952.
3. Berenblum, I.: The mechanism of carcinogenesis: a study of the significance of carcinogenic action and related phenomena, Cancer Res., 1:807-814, 1941.
4. Berenblum, I., and Shubik, P.: A new, quantitative approach to the study of the stages of chemical carcinogenesis in the mouse's skin, Brit. J. Cancer, 1:383-391, 1947.
5. Rous, P., and Kidd, J. G.: Conditional neoplasms and subthreshold neoplastic states: a study of the tar tumors of rabbits, J. Exper. Med., 73:365-390, Pl. 14-16, 1941.
6. Friedewald, W. F., and Rous, P.: The initiating and promoting elements in tumor production: an analysis of the effects of tar, benzopyrene, and methylcholanthrene on rabbit skin, J. Exper. Med., 80:101-126, Pl. 7-9, 1944.
7. Holt, J. P., Hendricks, N. V., Eckardt, R. E., Stanton, C. L., and Page, R. C.: A cancer-control program for high-boiling catalytically cracked oils, A.M.A. Arch. Indust. Hyg., 4:325-334, 1951.
8. Kotin, P., and Kahler, J. E.: Possible role of trauma as a cocarcinogen, case report in an oil worker, Cancer, 6:266-268, 1953.
9. Shimkin, M. B., de Lorimier, A. A., Mitchell, J. R., and Burroughs, T. P.: Appearance of carcinoma following single exposure to a refrigeration ammonia-oil mixture, A.M.A. Arch. Indust. Hyg. & Occ. Med., 9:186-193, 1954.
10. Smith, W. E.: Lung cancer with special reference to experimental aspects, A.M.A. Arch. Indust. Hyg., 5:209, 1952.

California MEDICAL ASSOCIATION

NOTICES & REPORTS

Council Meeting Minutes

Tentative Draft: Minutes of the 450th Meeting of the Council, San Francisco, Fairmont Hotel, June 27, 1959.

The meeting was called to order by Chairman Lum in the San Francisco Room of the Fairmont Hotel, San Francisco, on Saturday, June 27, 1959, at 9:30 a.m.

Roll Call:

Present were President Reynolds, President-Elect Foster, Speaker Doyle, Secretary Hosmer, Editor Wilbur and Councilors MacLaggan, Wheeler, Todd, Quinn, O'Neill, Kirchner, O'Connor, Gifford, Davis, Sherman, Campbell, Lum, Bostick and Teall. Absent for cause, Vice-Speaker Heron and Councilors Shaw and Harrington.

A quorum present and acting.

Present by invitation were Messrs. Clancy, Whelan, Marvin, Edwards and Collins of C.M.A. staff; Ben Read and Eugene Salisbury of the Public Health League of California; Messrs. Hassard and Huber, legal counsel; county executives Scheuber of Alameda-Contra Costa, Nute of San Diego, Geisert of Kern, Dochtermen of Sacramento, Bannister of Orange, Pettis and Field of Los Angeles, Wood of San Mateo, Donovan of Santa Clara, Brayer of Riverside, and Thompson of San Joaquin; Doctor Marshall Porter, State Department of Mental Hygiene; Doctor John Keye, Medical Director of the State Department of Social Welfare; William Rogers of the California Academy of General Practice; Doctor Larson, Mr. Paolini and Mr. Lyon of California Physicians' Service; and Doctors Dan O. Kilroy, Francis J. Cox and H. Dean Hoskins.

1. Minutes for Approval:

On motion duly made and seconded, minutes of the 449th meeting of the Council held May 9, 1959, were approved.

2. Membership:

(a) A report of membership as of June 25, 1959, was presented and ordered filed.

(b) On motion duly made and seconded, 2060 delinquent members whose dues had been received since May 9, 1959, were reinstated.

(c) On motion duly made and seconded in each instance, six applicants were voted Retired Membership. These were: Robert M. Furlong, Marin County; George B. Bormann, Waldo R. Oechsli, Los Angeles County; R. Stanton Sherman, San Francisco County; Earl C. Kading, San Mateo County; Louis W. Achenbach, Ventura County.

(d) On motion duly made and seconded in each instance, 29 applicants were voted Associate Membership. These were: Robert D. Bright, Roland F. Marks, M. Hunter Smith, Alameda-Contra Costa County; Claude Carter, Donald Casad, Mervyn S. Schwartz, Kean Westphal, Fresno County; Onn Tsai Chan, Alice L. Garrett, Antoinette A. Gomes, William Aubrey Gore, Charles V. Johnson, Barbara Evans Kovats, Margaret M. McCarron, Turner Wm. Payne, Milton G. Crane, Rollin K. McCombs, Robert M. Nakamura, Los Angeles County; Harold V. Dwyer, Margaret Godfrey, Napa County; M. B. Perkins, Orange County; Merritt D. Moon, Sacramento County; Ethel A. Chapman, San Bernardino County; Harold F. Behneman, San Diego County; Everett H. Dickenson, Robert Eisenberg, Emily Koeniger, San Francisco County; Kenneth E. Cole, San Luis Obispo County; Robert H. Noce, Stanislaus County.

T. ERIC REYNOLDS, M.D. President
PAUL D. FOSTER, M.D. President-Elect
JAMES C. DOYLE, M.D. Speaker
IVAN C. HERON, M.D. Vice-Speaker
DONALD D. LUM, M.D. Chairman of the Council
SAMUEL R. SHERMAN, M.D. . Vice-Chairman of the Council
MATTHEW N. HOSMER, M.D. Secretary
DWIGHT L. WILBUR, M.D. Editor
HOWARD HASSARD Executive Director
JOHN HUNTON Executive Secretary
General Office, 450 Sutter Street, San Francisco 8
ED CLANCY Director of Public Relations
Southern California Office:
2975 Wilshire Boulevard, Los Angeles 5 • DUnkirk 5-2341

(e) On motion duly made and seconded, reductions in dues were voted for 27 members because of illness or postgraduate study.

3. Report of President:

President Reynolds read two letters of appreciation which had been received, one from W. Byron Rumford and one from Doctor E. Vincent Askey.

Doctor Reynolds briefly reported on some of the actions taken at the A.M.A. annual meeting.

He stated that the A.M.A. Committee on Insurance and Prepayment Insurance Plans has scheduled a conference in Portland, Oregon to be held August 1 and 2 to discuss various economic problems. He will send a letter to the presidents of the various county societies and to the presidents of the districts in Los Angeles County urging them to send representatives to this conference. He also urged that C.M.A. be well represented at this meeting. (A letter has gone out over Doctor Reynolds' signature to the various county societies.)

4. Report of President-Elect:

President-Elect Foster reported additional actions taken at the A.M.A. annual meeting. He particularly mentioned that the A.M.A. is studying a plan by which physicians can provide for private retirement benefits.

Doctor Sherman reported on the effectiveness of the California delegation to the A.M.A. House of Delegates and particularly the work of Doctors Foster, McDonald, Bostick and Cass, and Messrs. Hassard, Hunton and Clancy. Mr. Clancy's report of the A.M.A. annual meeting was commended. On motion duly made and seconded it was voted that a letter of commendation be forwarded to Doctor Cass and to Messrs. Hassard, Hunton and Clancy.

5. Committee for Emergency Action:

(a) *For and Bill Hearings*: Mr. Hassard reported that the House Ways and Means Committee would hold open hearings on H. R. 4700 during the week of July 13-17. The A.M.A. suggested California should request the Committee to permit a representative of the medical association to appear before it. The Committee for Emergency Action and the Legislative Committee held a telephonic meeting on the afternoon of June 26 and designated Doctor Reynolds as the person to represent C.M.A. and directed that a letter be sent to the Ways and Means Committee requesting an opportunity for Doctor Reynolds to be heard. A letter making this request was forwarded to the Committee. The Council approved the action taken by the Committee for Emergency Action.

The Council directed that a letter be prepared to be sent to each member of the Association outlining

the provisions of H. R. 4700 and urging individual action.

(b) *Meeting with State Finance Department*:

Doctor Kilroy reported that the Committee on Legislation and the Committee for Emergency Action met in Sacramento with representatives of the California Finance Department. Doctor Reynolds summarized what went on at this meeting. If the state medical fee schedules are to be reasonably revised, representatives of the medical association must present facts upon which the revisions can be made. It was moved, seconded and voted that C.M.A. co-operate with the appropriate committee of the State of California and present to it the essential data regarding current physician charges in various regions of California and that we obtain the necessary data and permission for use from the various county societies to effect these objectives.

6. Report of the Finance Committee:

Doctor Sherman presented the report of the Finance Committee. It was recommended that John F. Forbes & Co., in connection with the annual audit, make suggestions regarding all financial procedures of the Association including the preparation of the annual budget and correlation of expenditures and also review the books and records of the Trustees of the C.M.A., Physicians' Benevolence Fund, Audio-Digest Foundation and Pacific Magnetic Tape Equipment Company.

It was moved, seconded and voted that whenever a proposal is made to the Council which will require the appropriation of funds not already included in the budget, the proposal shall be referred to the Finance Committee for study and that the Committee make a written report to a subsequent Council meeting.

It was moved, seconded and voted that the membership of the Finance Committee be increased from three to five with broader geographic representation.

The proposed MD-65 stop-loss agreement between C.M.A. and C.P.S. was moved, seconded and voted.

7. *Invitation to Doctors Orr and Askey to address Annual Session*:

The Council directed that Doctor E. Vincent Askey be invited to address the Annual Session of the C.M.A. at both its meeting in 1960 and its meeting in 1961. The Council also directed that the president invite Doctor Louis M. Orr, the president of the A.M.A., to address the Annual Session of the C.M.A. at its meeting in 1960.

8. *Commission on Public Policy*:

Doctor Kilroy and Messrs. Read, Salisbury and Hassard made a report to the Council concerning the various pieces of legislation that were passed,

those that were defeated and those measures which have been referred to an interim committee for further study.

A report of the Public Relations Committee was made by Mr. Clancy. The Committee recommended that in the event a fall meeting of the presidents and secretaries is held, a meeting of the chairmen of the various county public relations committees be convened at the same time.

9. *Commission on Medical Services:*

(a) *Two-Day Fall Meeting:* Doctor Francis J. Cox, chairman of the Commission on Medical Services, reported that the Commission recommended against the proposal that an interim session of the House of Delegates be held. Instead, the Commission proposed that the annual meeting of the county society officers be held in the fall and be expanded to a two-day meeting to consider problems of the aged and other urgent matters facing the profession and that invitations include appropriate county society committee chairmen; that a small special committee be appointed to direct the formulation of a program for the meeting. The Council approved the recommendations and directed the chairman of the Council to appoint the special committee.

(b) *Statewide Joint Council to Improve Care of the Aged:* The Commission also reported that the A.M.A. has proposed that state societies sponsor statewide joint councils to improve the care of the aged, composed of representatives of the dental, hospital and nursing home owners' associations. It was moved, seconded and voted that the Commission approach representatives of these associations in California, looking toward the feasibility and advisability of forming a California Joint Council to Improve the Care of the Aged and make a report back to the Council regarding this matter at its next meeting.

(c) *V. A. Home Town Care Program:* The Commission also recommended and the Council authorized the president to forward a letter to each member of the Association advising them of the recent changes in the Veterans Administration Home Town Care Program.

(d) *Revision of Workmen's Compensation Official Minimum Medical Fee Schedule:* The Commission reported the revisions in the Workmen's Compensation Official Minimum Medical Fee Schedule which had been ordered by the Industrial Accident Commission. The Council directed that this revision be widely disseminated to the membership.

(e) *Survey by Committee on Indigent and Aged:* Upon inquiry, Doctor Cox advised that the Committee on Indigent and Aged had under study a survey form which will be designed to obtain addi-

tional information pertinent to the medical care of the aged.

(f) *Relative Value Study**: The Council inquired of Doctor Cox when the data from the recent Relative Value Study would be available for the various counties. The Committee on Fees, Doctor H. Dean Hoskins, chairman, had been in session all day studying this problem. He reported that the Committee did not feel that it could recommend that any figures from the recent survey should be submitted to the counties until all tabulations had been completed. After discussion, it was moved, seconded and voted to table further consideration of this matter. (See Item 19.)

10. *Commission on Medical Education:*

(a) *Proposals Regarding the Annual Session:* The Commission on Medical Education made several recommendations to the Council regarding the holding of the annual session. After discussion, it was moved, seconded and voted that further consideration of this matter be tabled.

(b) *Invitations to Speakers for Annual Session:* The Commission also proposed that the following speakers be invited to address the 1960 Annual Session: Arnold Rich, M.D., Johns Hopkins; William Barry Wood, Jr., M.D., Johns Hopkins; Albert Segaloff, M.D., Tulane; and Oliver Cope, M.D., Harvard. This recommendation was approved by the Council.

11. *Staff Report:*

Discussion of the staff report relating to the guides for members of the House of Delegates was deferred until the next meeting.

12. *Commission on Public Agencies:*

A written report of this Commission was presented by Doctor Bostick. It was approved by the Council.

13. *State Department of Mental Hygiene:*

Doctor Marshall Porter of the State Department of Mental Hygiene expressed the appreciation of his Department for the cooperation received from C.M.A. representatives during the last session of the Legislature.

14. *Department of Social Welfare:*

Doctor John Keye briefly advised that the Department of Social Welfare must draft a program to administer the benefits that the Legislature has provided for those welfare recipients having disabilities.

15. *California Physicians' Service:*

Mr. Paolini reported briefly to the Council about the operations of California Physicians' Service.

*For further Council action on this subject, see minutes of August 8, 1959 meeting to be published next month.

16. Social Security Poll:

The Council directed that a meeting of the Speaker's Committee to outline an educational program regarding a ballot on the matter of physicians joining the social security system be held in the very near future.

17. Special Committee to Define Duties of Officers:

The Council also directed that the special committee which was formed to propose appropriate by-law changes to better delineate the duties of the officers of the Association, make a report to the next meeting of the Council.

18. Coordination of Committees:

Doctor Foster pointed out that the various committees dealing with government medical care programs should be constantly alert to insure the best coordination possible in this field of activity.

19. Relative Value Study:

It was moved, seconded and voted to take from the table the subject matter of the Relative Value Study. After discussion, it was moved, seconded and voted that the current Relative Value Study be referred to the Committee for Emergency Action for intensive study and report to the Council at the August meeting.

20. Time and Place of Next Meeting:

The Chairman announced, the Council concurring, that the next meeting would be held August 8 in Los Angeles.

21. Adjournment:

There being no further business to come before it, the meeting was adjourned at 5:45 p.m., Saturday, June 27, 1959.

DONALD D. LUM, M.D., *Chairman*
MATTHEW N. HOSMER, M.D., *Secretary*

Two School Health Conferences Set

TWO TWO-DAY CONFERENCES for California physicians and school administrative personnel on school health problems, one to be held in Riverside and the other in Berkeley, are planned for October under the sponsorship of the California Medical Association Committee on School Health.

The Riverside meeting is scheduled for October 2 and 3 at the Mission Inn and the Berkeley meeting October 23 and 24 at the Claremont Hotel.

Programs of formal presentations on assigned subjects by physicians and education department personnel are being formulated; and in addition there will be discussion groups, each with a recorder, that will serve as a sounding board for

OCTOBER 10-11 MEETING FOR CMA AND COUNTY SOCIETY KEY PERSONNEL

Saturday and Sunday, October 10 and 11, have been set as the dates for a two-day meeting at which county society officials and key personnel of active committees will meet with officers, committee leaders and members of the staff of the California Medical Association for reports and exchange of information on various programs of interest to the medical associations.

The meeting, to be held in Los Angeles at the Ambassador Hotel, was proposed by the CMA Commission on Medical Services and approved by the Council. It will take the place of the one-day gathering of county society officers that formerly was held in January each year. The earlier date and the expanded meeting were recommended because of the need to formulate and begin carrying out association programs in various fields, particularly medical care for persons over 65 years of age.

A special committee is working out an agenda and other details of the meeting.

school health problems and ideas as to their solution.

The meetings are open to all physicians, in particular those who are members of school health committees of county medical societies or other local organizations dealing with the subject.

At the end of the first day of both meetings, CMA is to be host at banquets to which all registrants are invited.

CONSTITUTIONAL AMENDMENT OFFERED

A proposed amendment to the Constitution of the California Medical Association was offered at the 1959 session and, in accordance with provisions of the Constitution, was referred to the Reference Committee on Amendments to the Constitution and By-Laws. The proposed amendment must lie on the table for one year and be published twice during that period in *CALIFORNIA MEDICINE*.

The reference committee suggested that this proposal be studied by the Constitution Study Committee during the year. The proposal will be referred in 1960 to a reference committee for additional study and recommendations to the 1960 House of Delegates.

Constitutional Amendment No. 1.

Author: Arthur Olson.

Representing: Santa Barbara County Medical Society.

Resolved: That Article VIII of the Constitution of the C.M.A. be amended by renumbering the pres-

ent sections in said Article to 2, 3 and 4 and inserting a new Section 1 as follows:

Section 1.—Eligibility for Appointment

Eligibility for appointment or election to any position, to any committee, or to in any way represent the C.M.A., or to formulate policy for C.M.A., shall depend on the member's not holding a salaried

position with or acting in an advisory capacity for, or being retained by a commercial insurance company or health plan which handles health or accident problems during the term of election or appointment. Nor shall such delegates or committee members hold a remunerative political position either appointive or elective. Association with California Physicians' Service is specifically excluded.

In Memoriam

ABBOTT, CHARLES NORMAN. Died in Cucamonga, July 18, 1959, aged 51, of heart disease. Graduate of College of Medical Evangelists, Loma Linda—Los Angeles, 1934. Licensed in California in 1934. Doctor Abbott was a member of the San Bernardino County Medical Society.



DESPAROIS, GUY BERNARD. Died in Los Angeles, May 12, 1959, aged 76. Graduate of Northwestern University Medical School, Chicago, Illinois, 1917. Licensed in California in 1926. Doctor Desparois was a member of the Los Angeles County Medical Association.



GORDON, KENNETH W. Died June 18, 1959, aged 70. Graduate of Baylor University College of Medicine, Houston, Texas, 1930. Licensed in California in 1931. Doctor Gordon was a member of the Los Angeles County Medical Association.



HALL, LEGRANDE LARSON. Died July 27, 1959, aged 53, of heart disease. Graduate of University of Colorado School of Medicine, Denver, 1932. Licensed in California in 1934. Doctor Hall was a member of the Los Angeles County Medical Association.



HYDE, ROBERT D. Died in Santa Monica, July 15, 1959, aged 63, of heart disease. Graduate of Harvard Medical School, Boston, Massachusetts, 1927. Licensed in California in 1930. Doctor Hyde was a member of the Los Angeles County Medical Association.



KAARBOE, OLAV. Died in Oakland, July 4, 1959, aged 72, of cardiac failure due to coronary occlusion. Graduate of College of Physicians and Surgeons of San Francisco, 1917. Licensed in California in 1917. Doctor Kaarboe was a retired

member of the San Francisco Medical Society and the California Medical Association, and an associate member of the American Medical Association.



KOehler, ALFRED EDWARD. Died in Santa Barbara, July 27, 1959, aged 62. Graduate of Harvard Medical School, Boston, Massachusetts, 1925. Licensed in California in 1931. Doctor Koehler was a member of the Santa Barbara County Medical Society.



LACEY, MARTIN J. Died in Albany, July 22, 1959, aged 79, of generalized arteriosclerosis. Graduate of Northwestern University Medical School, Chicago, Illinois, 1911. Licensed in California in 1929. Doctor Lacey was a retired member of the Alameda-Contra Costa Medical Association and the California Medical Association, and an associate member of the American Medical Association.



ROSENBLUM, DAVID HYMAN. Died in Los Angeles, July 22, 1959, aged 61, of heart disease. Graduate of University of Illinois College of Medicine, Chicago, Illinois, 1925. Licensed in California in 1925. Doctor Rosenblum was a member of the Los Angeles County Medical Association.



WAGNER, CHARLES ANDREW. Died July 14, 1959, aged 51. Graduate of Jefferson Medical College of Philadelphia, Pennsylvania, 1934. Licensed in California in 1946. Doctor Wagner was a member of the Los Angeles County Medical Association.



WOLFSON, ISAAC EDWARD. Died July 20, 1959, aged 54. Graduate of University of Cincinnati College of Medicine, Ohio, 1931. Licensed in California in 1932. Doctor Wolfson was a member of the Los Angeles County Medical Association.

APPLICATION FOR HOUSING ACCOMMODATIONS

FOR YOUR CONVENIENCE in making hotel reservations for the coming meeting of the California Medical Association, February 21*-24, 1960, Los Angeles, hotels and their rates are at the right. Use the form at the bottom of this page, indicating your first and second choice. Because of the limited number of single rooms available, your chance of securing accommodations of your choice will be better if your request calls for rooms to be occupied by two or more persons. **All requests for reservations must give definite date and hour of arrival as well as definite date and approximate hour of departure; also names and addresses of all occupants of hotel rooms must be included.**

Eighty-ninth Annual Session CALIFORNIA MEDICAL ASSOCIATION Los Angeles, California FEBRUARY 21*-24, 1960

HOTEL ROOM RATES[†]

AMBASSADOR HOTEL	Single	Twin Beds	Suites
3400 Wilshire Boulevard			
Main Building.....	12.00-22.00	16.00-26.00	32.00-44.00
Garden Studios.....	18.00-28.00	22.00-32.00	44.00-58.00
 CHAPMAN PARK HOTEL			
3405 Wilshire Boulevard.....	9.00-10.00	14.00	20.00
Bungalows.....		16.00	25.00-40.00
 THE GAYLORD HOTEL			
3355 Wilshire Boulevard.....		12.50	18.00
 HOTEL CHANCELLOR			
3191 West Seventh Street.....	9.00	12.00	
 SHERATON-WEST (formerly Sheraton-Town House)			
2961 Wilshire Boulevard.....	12.50-18.00	17.50-23.00	34.00

ALL RESERVATIONS MUST BE RECEIVED BEFORE: FEBRUARY 1, 1960

*February 20: House of Delegates will start with evening meeting Saturday, February 20.

†The above quoted rates are existing rates but are subject to any change which may be made in the future.

CALIFORNIA MEDICAL ASSOCIATION

450 Sutter Street—Room 2000

San Francisco 8, California

Please reserve the following accommodations for the 89th Annual Session of the California Medical Association, in Los Angeles February 21-24, 1960.

Single Room Twin-Bedded Room \$.....

Small Suite \$..... Large Suite \$..... Other Type of Room \$.....

First Choice Hotel..... Second Choice Hotel.....

ARRIVING AT HOTEL (date):..... Hour:..... A.M. P.M. { Hotel reservations will be held until

Leaving (date):..... Hour:..... A.M. P.M. { 6:00 P.M., unless otherwise notified

THE NAME OF EACH HOTEL GUEST MUST BE LISTED. Therefore, please include the names of both persons for each twin-bedded room requested. Names and addresses of all persons for whom you are requesting reservations and who will occupy the rooms asked for:

Individual Requesting Reservations—Please print or type
Name.....
Address.....

Officer?..... Delegate?..... Alternate?.....
County.....
City and State.....

PUBLIC HEALTH REPORT

MALCOLM H. MERRILL, M.D., M.P.H.
Director, State Department of Public Health

THE NUMBER OF REPORTS of occupational disease attributed to pesticides and other agricultural chemicals the first six months of this year comes close to doubling the number recorded for the like period in 1958. Reports for the first half of the current year number 488, compared with 274 a year ago.

Crop production in California as elsewhere in the nation is steadily increasing, despite the fact that acreage and manpower devoted to agriculture are dwindling. A major part of these production increases can be attributed to more and better use of pesticides and other agricultural chemicals.

Many of these materials, however, are potentially hazardous and their widespread application creates a problem in ensuring the health and safety of the workers who handle them.

Of particular interest this year has been the large number of reports of parathion (one of the highly toxic organic phosphate chemicals) poisoning. During June more than 70 reports of parathion poisoning were received from one county. There have been about 30 reports of thimet poisoning, a new organic phosphate pesticide of relatively high toxicity which is used to treat cotton seeds.

Work on several new diagnostic tests for poliomyelitis and other virus infections will be continued by the Department with a \$26,952 grant from the National Foundation. The grant will support research under the direction of Dr. Edwin H. Lennette, chief of the Viral and Rickettsial Disease Laboratory.

For the past several years the laboratory has been conducting detailed studies on various blood tests, particularly complement-fixation, for the diagnosis of poliomyelitis. The test devised by Dr. Lennette's group has been given extensive trial and appears to be well suited for certain kinds of work in the disease.

The laboratory is now engaged in trying to devise, or improve, blood tests, including complement-fixation tests for the diagnosis of virus infections related to poliomyelitis, such as Coxsackie and ECHO virus infections.

The increasing recognition of rabies in insectivorous bats in California this year emphasizes that

the reservoir of infection from this source cannot be ignored. Eleven cases of rabies in bats have been reported during the first seven months of 1959, exceeding the total number of cases recognized annually in the state since 1954, when the first isolation of rabies virus from a bat was made in California.

There have been two human rabies deaths due to bat bites, a 1958 case in Butte County, and one in Los Angeles this year in a person who had been investigating bat caves in Texas.

After September 18 California infants need not be footprinted at birth. A bill which repealed the law requiring footprinting of infants, as well as fingerprinting of the mother, was signed by the governor.

Another measure passed by the legislature was one to protect children from toys painted with toxic metallic compounds or that contain any diseased or decomposed substances or that have been exposed to insanitary conditions. This law also is effective September 18.

At the request of the California Academy of Pediatrics, the Bureau of Maternal and Child Health is participating in a seven-county study of child health services in preparation for the 1960 White House Conference on Children and Youth, and as a follow-up of the Academy's 1946 survey on child health services.

Selected physicians in Fresno, Orange, San Benito, San Francisco, San Mateo, Santa Clara and Shasta counties as well as all hospitals that serve children in those counties are being asked to complete questionnaires.

The Bureau is collecting data from the county health departments on population, economic and social status, health and health services, child welfare services, juvenile delinquency services and major problems in child health. The material obtained from these seven counties will be used as a supplement to the Child Health Fact Book being prepared by this department and the Academy of Pediatrics as the basis for the California Report to the White House Conference.

INFORMATION

Rehabilitation Aid to Needy Disabled

A Program for Improvement of Independent Function

A NEW STATE LAW that provides for medical and related services to be made available to recipients of Aid to the Needy Disabled (ATD) goes into effect October 1. It will be financed by the transfer of \$6 per recipient per month from general funds to the Medical Care Premium Deposit Fund on behalf of each recipient.

This act is to be administered by the counties, under supervision of the State Department of Social Welfare. The primary purpose of this program is to meet significant needs not generally met by resources in the communities where recipients live, and to render services which will assist the recipients in living more independently and with some comfort under the circumstances of their disabilities.

The ATD recipient group currently numbers about 6,500 people. It is anticipated that the number may reach 11,000 by the end of the next fiscal year. Among the recipients, very few have any income in addition to public assistance grant. Fewer than 10 per cent own their own homes, and fewer than 30 per cent have any personal property. About half of them are living with families that receive other kinds of public assistance; and 30 per cent of the recipients are in county hospitals.

Research determined that if total medical care was to be extended to all recipients, the cost would exceed the amount provided. In consultation with the ATD Advisory Committee and the Medical Advisory Committee and county medical consultants, various alternatives were considered and the following program was developed.

ATD recipients eligible for functional improvement services will be those who can benefit from physical restoration or achieve greater degrees of self-care through specified services and devices. Further conditions are that the required services are not otherwise available to them, and they must show evidence of sufficient motivation to warrant expenditures. Expenditures will not be made for such things as eyeglasses, dentures and hearing aids. The aid will not be available for persons in county hospitals, for they are presumed to be already provided with what they need, but it will be available, if they are otherwise eligible, when they leave the hospital to go home.

The services and items related to a plan for functional improvement shall not exceed \$300 in any 12-month period. Of this amount, the cost of medical diagnostic services shall not exceed \$75. The following services and items considered essential for a plan for functional improvement may be authorized for payment under this program:

1. Physician home or office visits, as indicated (including necessary x-ray and laboratory services), to evaluate functional improvement needs and to provide treatment and continuing direction of physical restoration and self-care services.
2. Nursing services, if the recipient lives outside a geographical area which is being served by visiting nurse services and if the public health department is unable to provide nursing services.
3. Physical and occupational therapy services under medical supervision for functional evaluation and/or treatment.
4. Appliances and assistive devices (excluding dentures, hearing aids and glasses) if not available from other sources in the community.
5. Household rehabilitation equipment, including bathroom rails, parallel bars, modified chairs and toilet seats, pulleys, overbed trapeze bars, bedboards and devices to aid dressing and eating.

Before services can be supplied under this program, authorization must be given in each case by the State Department of Social Welfare. The county shall identify the individual cases and recommend a plan to a state review team consisting of a medical consultant, a medical social worker and other necessary consultant services, who shall review each case and authorize a plan to provide functional improvement services. It is expected that cases in which the services might be of benefit will come to light through appraisal of the situation of persons at the time aid is first granted, through the annual review of continuing cases and through specific request by a recipient for such aid.

The State Department of Social Welfare has provided a monthly statistical report to show the services provided and results obtained under this program.

Designation of physicians eligible to certify persons under this program will be worked out between representatives of the county medical societies and the county welfare directors and their medical consultants.

Assurances have been given by state authorities that this program will move into operation slowly. Budget limitations will always be observed. Additional needs and expenses will be tabulated and reported to the legislature.

C.M.A. representatives on the Advisory Committee to the State Department of Social Welfare have been consulted on the development of this program.

NEWS & NOTES

NATIONAL • STATE • COUNTY

LOS ANGELES

The California Academy of General Practice will present its eleventh annual Scientific Assembly at the Hotel Statler in Los Angeles, October 11 to 14, 1959. The meeting is expected to attract some 2,500 family physicians and their wives from the western states.

Among the topics which will be discussed are new drugs in gastroenterology, the coronary patient, pitfalls in diagnosis of fractures, practical laboratory medicine, cardiovascular emergencies, and elective induction of labor. Also on the program will be lectures on abdominal pain, hand injuries, cervicitis, a panel on modern treatment of carcinoma of the breast, osteoporosis and other surgical and obstetrical subjects.

Physicians attending the meeting, the academy's announcement said, will have an opportunity to hear such authorities as Milton H. Erickson, Phoenix, Arizona, president of the American Society of Clinical Hypnosis; Mayo physician Philip Hench, Rochester, Minn., speaking on the use of steroids; Gilbert H. Fletcher of Houston, radiation; Charles W. McLaughlin, Omaha surgeon; and James B. Donaldson, Philadelphia, a specialist on hypertension. A complete program and reservation information may be obtained from California Academy of General Practice, 461 Market Street, San Francisco 5.

* * *

Four simultaneous luncheon symposia and eighteen additional presentations on diagnosis and treatment of cardiovascular disease will be conducted by nine medical specialists at the 29th Annual Symposium on Heart Disease of the Los Angeles County Heart Association, October 7 and 8.

Dr. Walter S. Graf, chairman of the Professional Symposium Committee, said this 1959 symposia is outstanding for its wide range of content and will appeal to both clinician and research scientist. Special attention has been directed to the interest of the heart surgeon and pediatric cardiologist.

Reservations are being received by the Heart Association, 2405 West Eighth Street, Los Angeles 57. The telephone number is DUnkirk 5-4231.

* * *

The Society of Graduate Internists of the Los Angeles County General Hospital will hold its seventh annual clinical symposium at the Statler Hotel and the Los Angeles County General Hospital on October 30, 31, and November 1, 1959. Guest speakers will be Lauren V. Ackerman, M.D., St. Louis; Thomas Francis, Jr., M.D., Ann Arbor; Joseph B. Kirsner, M.D., Chicago; and David Rytand, M.D., San Francisco.

The society, an organization of former medical residents, sponsors a three-day clinical symposium each year.

SAN DIEGO

"Nursing for a Growing State" will be the theme of the 1959 convention of the California League for Nursing, to be held in San Diego, October 8 to 10, with headquarters

at the U. S. Grant Hotel. General program meetings will be held Thursday and Friday afternoon, October 8 and 9, with business sessions in the morning of each day. On Saturday, October 10, the California League for Nursing Council on Psychiatric and Mental Health Nursing and the CLN Council on Vocational Nursing will hold a joint program meeting. Business meetings of the two Councils will precede the program.

The Student Nurses' Association of California will meet concurrently and will join with CLN for some program sessions.

A number of pre-convention meetings will be held on Wednesday, October 7, including the first annual business and program meeting of the California League for Nursing Council of Visiting Nurse Associations.

SAN FRANCISCO

The Golden Gate Ileostomy and Colostomy Club, an organization whose purpose is to be useful to persons who have had such operations and to their physicians, will meet at the University of California Medical School on Friday, October 9, 1959, at 8 p.m. Guest speaker will be Dr. Hugo Charles Moeller, assistant professor of medicine at the University of California School of Medicine. His topic will be "Experimental Work Relating to the Cause of Ulcerative Colitis."

On Friday, November 13, at 8 p.m., the group will meet at Kaiser Foundation Hospital in Oakland. Colonel James E. Graham, chief of professional services and surgery at Leterman Army Hospital, will be the featured speaker. He will talk on "The Care and Management of a Colostomy" and will also discuss his battlefield experiences with wounds resulting in colostomies.

All members of the medical profession are invited to attend.

GENERAL

The Western Society for Clinical Research will hold its thirteenth annual meeting in Carmel on Thursday afternoon, Friday morning, and Saturday morning, January 28, 29 and 30, 1960.

Further information regarding the meeting may be obtained from the office of the Society's secretary, Dr. William N. Valentine, U. C. Medical Center, Los Angeles 24.

* * *

A Chrysler Fund contribution of \$22,500 to the National Fund for Medical Education was presented recently by John D. Leary, vice-president of Chrysler Corporation, to John S. Bugas, vice-president of Ford Motor Company and chairman of the automotive division of the National Fund for Medical Education. The National Fund for Medical Education annually awards grants to each of the nation's 82 medical schools to support basic medical research in the conquest of disease, and to improve standards of medical education in the individual schools.

* * *

The Second Western Regional Meeting of the International College of Surgeons is to be held at the Stardust Hotel in Las Vegas, November 22 to 24. The announcement of the meeting said that an excellent scientific program is being planned, with many outstanding speakers, as well as ample opportunity for the entertainment which Las Vegas offers. Registration begins Sunday, November 22, and scientific meetings are scheduled for Monday and Tuesday, November 23 and 24.

Further information may be obtained from F. M. Turnbull, Jr., M.D., 1930 Wilshire Boulevard, Los Angeles 57.

The annual meeting of the Pacific Coast Fertility Society will be held November 12 to 15 at the Tropicana Hotel, Las Vegas, Nevada. Guest speakers are Dr. Robert S. Hotchkiss, department of urology, New York University Medical School; Dr. John Rock, director of Free Hospital for Women and Reproductive Study Center, Brookline, Mass.; Dr. Herman Knaus, department of obstetrics and gynecology, University of Vienna, Austria; Dr. Joseph T. Velardo, department of anatomy, Yale University School of Medicine, New Haven, Conn.; and Dr. Milton Gross, director of the department of biochemistry, Margaret Hague Maternity Hospital, Jersey City, N. J. Further information may be obtained from Dr. Anah C. Wineberg, 3120 Webster Street, Oakland 9.

* * *

Four California members of the American Physicians Art Association won prizes for their exhibits at the organization's annual exhibit held during the convention of the American Medical Association at Atlantic City in June. Dr. John H. Gratiot, Monterey, won first prize in oil landscapes; Dr. Kurt Schnitzer, Santa Ana, first prize in photography; Dr. T. C. Stevenson, Menlo Park, first prize in oil portraits; and Dr. Richard H. Gwartney, retiring

EMERGENCY CARE RELIEVED OF LIABILITY

California physicians rendering emergency medical care at the scene of the emergency will not be liable for any civil damages as a result of any acts or omissions, under a new California law that goes into effect September 18.

This new provision in the Business and Professions Code removes a hazard that has made some physicians reluctant to render first aid in such circumstances.

president of the American Physicians Art Association, San Bernardino, third prize in crafts.

In addition to the prize winners listed above, California was represented by the works of the following seven physicians: Marsaal C. Cheney, Berkeley; William T. Clime, Tulare; Harvard Ellman, Beverly Hills; Charles L. Colthamer, Van Nuys; William M. Netheny, Glendale; Walter Scott, Los Angeles; and Juso Tay Shintani, Los Angeles.

POSTGRADUATE EDUCATION NOTICES

THIS BULLETIN of the dates of postgraduate education programs and the meetings of various medical organizations in California is supplied by the Committee on Postgraduate Activities of the California Medical Association. In order that they may be listed here, please send communications relating to your future medical or surgical programs to: Mrs. Margaret H. Griffith, Director, Postgraduate Activities, California Medical Association, 2975 Wilshire Boulevard, Los Angeles 5.

UNIVERSITY OF CALIFORNIA AT LOS ANGELES

Teaching Clinics. Thursdays, September 17 through December 10. Twenty-four hours. Fee: \$50.00. (No meeting November 26.)

Common Problems of the Foot. Friday and Saturday, September 18 and 19. Lecture and Lab. Twelve hours. Fee: \$60.00. Lecture only. Nine hours. Fee: \$35.00.

Industrial Health (Public Health). Tuesdays, September 22 through December 8. Thirty hours. Fee: \$25.00.

Beginning Medical Terminology. Tuesdays, September 22 through February 2 (omit December 22, 29). Forty-five hours. Fee: \$35.00.

Counseling and Placement of Hospital Nursing Personnel. Wednesdays, September 23 through December 9. Thirty hours. Fee: \$25.00.

Public Health Statistics. Wednesdays, September 23 through February 3 (omitting December 23, 30). Forty-five hours. Fee: \$35.00.

Practical Clinical Chemistry for Laboratory Technologists. Wednesdays, September 23 through November 11. Twenty-four hours. Lecture and laboratory fee: \$35.00 plus \$5.00 breakage; lecture only \$20.00.

Medical Terminology: Advanced. Thursdays, September 24 through February 11 (omitting November 26, December 24, 31). Forty-five hours. Fee: \$35.00.

Diagnostic Parasitology (Pomona). Tuesdays, September 24 through December 15. Thirty-six hours. Fee: \$40.00.

Hypertension. Saturday, September 26. Six hours. Fee: \$20.00.

Eighth Continuing Education Conference WICHE (Tucson). Monday through Friday, September 28 through October 2. Fee: \$30.00.

Surgical Anatomy. Mondays, September 28 through November 30. Twenty hours. Fee: \$85.00.

Pathological Physiology of the Cardiovascular System. Mondays, October 5 through December 7. Twenty hours. Fee: \$60.00.

Advanced Clinical Electrocardiography. Tuesdays, October 6 through December 8. Twenty hours. Fee: \$60.00.†

Institute for Medical Consultants in State-Federal Rehabilitation Programs (Arrowhead). Sunday through Thursday, October 11 through 15. Twenty hours. Invitational.

Two-Week Rehabilitation Nursing Workshop. Daily, October 19 through 30. Thirty hours. Fee: \$25.00.

Neuropathology. Tuesdays and Thursdays, October 22 through December 10. Sixteen hours. Fee: \$100.00.

Aviation Medicine. Wednesday, Thursday and Friday, October 28, 29 and 30. Eighteen hours. Fee: \$65.00.

Photomicrography. Mondays, November 2 through December 7. Twelve hours. Fee: \$30.00 plus \$2.00 for manual.

Ear, Nose and Throat. Friday and Saturday, November 13 and 14. Twelve hours. Fee: \$60.00.

† Limited enrollment.

Diarrhea. Friday and Saturday, November 20 and 21. Twelve hours. Fee: \$40.00.

Clinical Hematology. Friday and Saturday, December 4 and 5. Twelve hours. Fee: \$50.00.

Clinical Traineeships—Anesthesia and Dermatology. Dates by arrangement. Minimum period—two weeks. Fee: Two weeks, \$150.00; four weeks, \$250.00.

Special Announcement: A Postgraduate Course in Mexico City, in cooperation with Universidad Nacional Autonoma de Mexico Escuela Nacional de Medicina, Mexico, D. F. Instructional Staff will be drawn from the staff of the U.C.L.A. School of Medicine and the staff of the Universidad Nacional Autonoma de Mexico Escuela Nacional de Medicina. The program will include lectures and presentation of Clinical Cases in: Anesthesiology, Gastroenterology, Dermatology, Cardiology, Pediatrics and General Surgery. Wednesday, February 25 through Saturday, March 5, 1960.

Contact: Thomas H. Sternberg, M.D., Assistant Dean for Postgraduate Medical Education, U.C.L.A., Los Angeles 24. BRadshaw 2-8911, Ext. 7114.

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

Administration of Nursing Care (Oakland). Tuesday evenings, September 15 through December 15. Fifty hours. Fee: \$35.00.

Nursing Care of Medical-Surgical Patient (San Mateo). Tuesday evenings, September 15 through December 15. Thirty hours. Fee: \$25.00.

Obstetrical Complications. Thursday through Saturday, September 17 through 19. Eighteen hours. Fee: \$50.00.

Nursing Care of Mothers and Children (San Mateo). Thursday evenings, September 17 through December 17. Thirty hours. Fee: \$25.00.

Medicine for General Practitioners (evening series). Tuesday, September 22 through November 17. Sixteen hours. Fee: \$35.00.

Advances in Physical Medicine. Friday and Saturday, September 25 and 26. Fourteen hours. Fee: \$40.00.

Nursing in Rehabilitation (San Leandro). Monday through Friday, October 12 through October 30. 105 hours. No fee.

Current Concepts in Nutrition. Monday evenings, October 12 through November 16. Twelve hours. Fee: \$15.00.

Use of Laboratory Methods in Office Practice. Thursday through Saturday, November 5 through 7. Twenty hours. Fee: \$50.00.

11th Postgraduate Assembly in Endocrinology and Metabolism. Monday through Friday, November 9 through 13. Thirty-five hours. Fee: \$100.00.

Adolescents (Children's Hospital). Saturday, November 14. Seven hours. Fee: \$12.50.

Man and His Environment: The Air He Breathes. Sunday through Tuesday, January 16 through 18. Eighteen hours.*

Course for Physicians in General Practice. Monday through Friday, March 7 through 11. Thirty-five hours.*

*Fees to be announced.

Fundamental Practices of Radioactivity and the Diagnostic and Therapeutic Uses of Radioisotopes. Two or three month course limited to one enrollee per month. Fee: \$350.00.

Contact: Seymour M. Farber, M.D., Assistant Dean, Department of Continuing Medical Education, University of California Medical Center, San Francisco 22. MOnrose 4-3600, Ext. 665.

STANFORD UNIVERSITY SCHOOL OF MEDICINE

Morning Clinical Conferences, each Monday, **Contact:** D. H. Pischel, M.D., Professor, Division of Ophthalmology, Stanford University School of Medicine, 300 Pasteur Drive, Palo Alto.

Stanford University School of Medicine Scientific Symposium and Dedication of Stanford Medical Center. September 17 and 18, 9:30 a.m. to 5:00 p.m. Stanford Medical Center, 300 Pasteur Drive, Palo Alto, California. **Contact:** Dean, Stanford University School of Medicine, 300 Pasteur Drive, Palo Alto. D'Avenport 1-1200.

UNIVERSITY OF SOUTHERN CALIFORNIA, LOS ANGELES

Cardiac Resuscitation. Sponsored by the Los Angeles County Heart Association each Wednesday throughout the year, 4 to 6 p.m. USC Medical Research Building, Room 211, 2025 Zonal Avenue. Residents and interns of Los Angeles County, and all armed forces medical personnel admitted without fee. Tuition for all other physicians \$30.00. (Each session all-inclusive.)

Basic Home Course in Electrocardiography. One year postgraduate series, electrocardiogram interpretation by mail. Physicians may register at any time and receive all 52 issues. Fifty-two weeks. Fee: \$100.00.

Advance Home Course in Electrocardiography. One year postgraduate series, electrocardiogram interpretation by mail. Fifty-two issues: \$85.00. Physicians may register at any time.

Practical Diagnosis and Management of Cardiovascular Diseases. September 18 through 20. Twenty-one hours. Fee: \$65.00.

Intensive Review of Internal Medicine. Monday through Friday, September 21 through October 2. 9 to 12:30 a.m. Forty hours. Fee: \$65.00.

Bedside Clinics. Thursdays, October 8 through January 14. 7:30 to 9:30 p.m. Twenty-four hours. Fee: \$65.00.

Psychiatric Problems in General Practice. October 8 through December 17. Twenty-two hours. Fee: \$50.00.

Laboratory Methods. Friday, October 9. Seven hours. Fee: \$25.00.

The Doctor and the Family. Friday, October 16. Seven hours. Fee: \$25.00.

Alumni Homecoming Course. Recent Advances in Medicine. Thursday and Friday, November 5 and 6. Sixteen hours. Fee: \$50.00.

Advances in the Diagnosis and Treatment in Gastroenterology. Friday through Sunday, January 15 through 17. Twenty-one hours. Fee: \$65.00.

Bedside Cardiology. Thursdays, February 4 through April 21. Fee: \$65.00.‡

Dermatology Clinic, One-Day Symposium. Thursday, March 24.§

Funduscopic in Internal Medicine. Every other Tuesday, April 5 through May 31. Five 2-hour sessions.*

Ward Walks in Rare Diseases. Thursdays, April 14 through June 16.§

Contact: Phil R. Manning, M.D., Associate Dean and Director, Postgraduate Division, University of Southern California School of Medicine, 2025 Zonal Avenue, Los Angeles 33. CApital 5-1511.

COLLEGE OF MEDICAL EVANGELISTS

CLINICAL TRAINEESHIPS available in all clinical departments by arrangement with the Postgraduate Division and the Chairman of the department or departments involved. Eighty hours minimum. Fee: As arranged.

SPECIAL SKILLS available in the clinical departments, usually with a maximum of two or three students.

Anesthesia. Monday through Friday. Date as arranged. Six months. Fee: \$350.

Surgical Anatomy: Thorax, Abdomen, Pelvis, January 4 through April 13. 121 hours. Fee: \$125.00. Head and Neck, April 20 through June 1. 63 hours. Fee: \$75.00.

Surgical Anatomy: Thorax, Abdomen, Pelvis, January 6 through April 13. Twenty-eight hours. Fee: \$50.00. Head and Neck, April 20 through June 1. Twenty-four hours. Fee: \$35.00.

ALUMNI POSTGRADUATE CONVENTION, held annually in cooperation with the Alumni Association of the School of Medicine. Refresher Courses, Sunday and Monday, February 28 and 29, at White Memorial Hospital, 1720 Brooklyn Avenue. Six hours each day. Fee: \$20.00 each day. Scientific Assembly, Tuesday through Thursday, March 1 through 3, at the Ambassador Hotel. Twenty-four hours. Fee: \$15.00. **Contact:** Walter Crawford, executive secretary, 316 N. Bailey Street, Los Angeles 33, ANgelus 2-2173.

TRAUMATOLOGY, a complete review including fractures and dislocations, soft tissue injuries, as well as complications involving the 3 cavities: Calvarium, thorax and abdomen. Limited to 15 candidates. Includes basic sciences, lectures, clinical demonstrations. Monday through Friday, November 9 through 13. Thirty-six hours. Fee: \$100.00.

TROPICAL PUBLIC HEALTH: Causes, treatment and management of diseases found in the warm climates. For physicians who plan to serve abroad and other ancillary personnel. Monday through Friday, April 1 through May 30. Fee: \$65.

JOINT MANIPULATION. Monday through Friday, 8:00 to 12:00, dates to be arranged. Twenty hours. Fee: \$75.00.

For information contact: G. E. Norwood, M.D., assistant dean and chairman, Division of Postgraduate Medicine, College of Medical Evangelists, 1720 Brooklyn Ave., Los Angeles 33. ANgelus 9-7241, Ext. 214.

†Hours to be announced.

‡Fees and hours to be announced.

AUDIO-DIGEST FOUNDATION, a nonprofit subsidiary of the C.M.A., offers (on a subscription basis) a series of six different hour-long tape recordings covering general practice, surgery, internal medicine, obstetrics and gynecology, pediatrics and anesthesiology. Designed to keep physicians posted on what is new and important in their respective fields, these programs survey current national and international literature of interest and contain selected highlights of on-the-spot recordings of national scientific meetings, panel discussions, symposia, and individual lectures. For information contact Mr. Claron L. Oakley, Editor, 1919 Wilshire Blvd., Los Angeles 57, HUbbard 3-3451.

Medical Dates Bulletin

AMERICAN COLLEGE OF GASTROENTEROLOGY. September 19 through 26. Biltmore Hotel, Los Angeles. **Contact:** Mr. Daniel Weiss, executive director, 33 W. 60th St., New York 23, New York.

SANTA BARBARA COUNTY HEART ASSOCIATION Symposium on Cardiovascular Disease. Saturday, September 19. 9:00 a.m. to 5:00 p.m. Biltmore Hotel, Santa Barbara. **Contact:** Mrs. Katherine McCloskey, executive director, 18 La Arcada Court, Santa Barbara.

SAN FRANCISCO ACADEMY OF GENERAL PRACTICE Fort Miley Surgical Clinics and Symposia. Tuesday evenings, September 22 through November 3, 8:00 p.m., Fort Miley Veterans Administration Hospital, San Francisco. **Contact:** Robert W. Wolf, M.D., 760 Market Street, San Francisco.

AMERICAN GROUP PSYCHOTHERAPY ASSOCIATION First Western Institute. September 23. Olympic Western Hotel, Seattle, Washington. **Contact:** Merlin H. Johnson, M.D., program committee chairman, V.A. Hospital, 4435 Beacon Ave., Seattle 8.

OREGON STATE MEDICAL SOCIETY Annual Meeting, September 23 through 25, Medford, Oregon. **Contact:** Mr. Roscoe K. Miller, executive secretary, 1115 S.W. Taylor St., Portland 5, Oregon.

SAN FRANCISCO HEART ASSOCIATION 29th Annual Post-graduate Symposium on Heart Disease. September 30, October 1 and 2, 9 a.m. to 5 p.m. daily, St. Francis Hotel, San Francisco. **Contact:** Lawrence I. Kramer, Jr., executive director, 259 Geary Street, San Francisco 2. YUKon 2-5753.

OCTOBER MEETINGS

WESTERN INDUSTRIAL MEDICAL ASSOCIATION, INC. 18th Annual Meeting, held in conjunction with Third Western Industrial Health Conference, all day October 2 and 3, Statler Hotel, Los Angeles. **Contact:** A. C. Remington, M.D., medical director, AiResearch Mfg. Co., 9851 Sepulveda Blvd., Los Angeles 45.

CALIFORNIA SOCIETY OF INTERNAL MEDICINE Annual Meeting, October 2 through 4, Miramar Hotel, Santa Barbara. **Contact:** Mrs. Mildred B. Coleman, executive secretary, or Clyde C. Greene, Jr., M.D., secretary-treasurer, 350 Post Street, San Francisco 8.

SAN DIEGO COUNTY HEART ASSOCIATION Ninth Annual Symposium on Heart Disease. October 5 and 6, El Cortez Hotel, San Diego. **Contact:** O. M. Avison, executive director, 3545 4th Avenue, San Diego.

LOS ANGELES COUNTY HEART ASSOCIATION 29th Annual Professional Symposium. October 7 and 8, 9:00 a.m. to 5:00 p.m., Beverly-Hilton Hotel, Beverly Hills. *Contact:* Chauncey A. Alexander, executive director, 660 South Western Avenue, Los Angeles 5.

GOVERNOR'S CONFERENCE ON TRAFFIC SAFETY, Medical Division, Sacramento. October 8 and 9. *Contact:* Irma West, M.D., State Department of Public Health, 2151 Berkeley Way, Berkeley 4.

CALIFORNIA LEAGUE FOR NURSING Annual Meeting, October 8 through October 10, U. S. Grant Hotel, San Diego. *Contact:* Ruth I. Jorgensen, general director, Room 202, 465 Post St., San Francisco 2.

KAISER FOUNDATION HOSPITALS Symposium on Physiology of Emotions. October 9 and 10. Fairmont Hotel, San Francisco. *Contact:* C. C. Herbert, M.D., Kaiser Foundation Hospital, 2425 Geary Boulevard, San Francisco.

CALIFORNIA ACADEMY OF GENERAL PRACTICE 11th Annual Scientific Assembly, October 11 through 14, 9:00 a.m. to 5:00 p.m., Hotel Statler, Los Angeles. *Contact:* William W. Rogers, executive secretary, 461 Market Street, San Francisco.

ST. JUDE HOSPITAL POSTGRADUATE ASSEMBLY, St. Jude Hospital, Fullerton, October 29 and 30. *Contact:* B. L. Tesman, M.D., chairman, 1431 Fullerton Rd., Fullerton.

NOVEMBER MEETINGS

SAN DIEGO COUNTY HOSPITAL 13th Annual Postgraduate Assembly. November 4 and 5, 8:00 a.m., San Diego County Hospital. *Contact:* W. T. Nute, executive secretary, San Diego County Medical Society, 3427 Fourth Ave., San Diego 3.

PACIFIC COAST FERTILITY SOCIETY 8th Annual Meeting. November 12 through 15, Las Vegas, Nevada. *Contact:* Anah Wineberg, M.D., secretary, 3120 Webster Street, Oakland.

CALIFORNIA SANATORIUM ASSOCIATION Annual Meeting. November 14, 9:00 a.m., Santa Clara County Hospital, San Jose. *Contact:* Morton R. Manson, M.D., director, Thoracic Service, Santa Clara County Hospital, San Jose.

AMERICAN COLLEGE OF OBSTETRICIANS AND GYNECOLOGISTS—District VIII Annual Meeting. Each morning, November 15 through 21. Royal Hawaiian Hotel, Honolulu. *Contact:* Harold K. Marshall, M.D., Secretary-Treasurer, District VIII, A.C.O.G., 202 Professional Building, Glendale.

AMERICAN COLLEGE OF PHYSICIANS Southern California Region Annual Basic Science Lectureship Dinner. November 20, Biltmore Hotel, Los Angeles. *Contact:* George C. Griffith, M.D., Governor for Southern California, A.C.P., P. O. Box 25, 1200 North State Street, Los Angeles 33.

AMERICAN ACADEMY FOR CEREBRAL PALSY Annual Meeting, November 30 through December 2, Statler Hotel, Los Angeles. *Contact:* Margaret H. Jones, M.D., local arrangements chairman, associate professor of pediatrics, UCLA School of Medicine, Los Angeles 24.

DECEMBER MEETINGS

MEMORIAL HOSPITAL OF LONG BEACH Medical Staff 2nd Annual Scientific Symposium "New Horizons in Medicine," to be held in conjunction with the formal opening of the new 400-bed Memorial Hospital of Long

Beach, December 2nd. *Contact:* George X. Trimble, M.D., director of medical education, Seaside Memorial Hospital, 1401 Chestnut Avenue, Long Beach 13.

AMERICAN COLLEGE OF CHEST PHYSICIANS Fifth Annual Postgraduate Course on Diseases of the Chest. December 7 through 11. Ambassador Hotel, Los Angeles. *Contact:* Mr. Murray Kornfeld, Executive Director, 112 East Chestnut St., Chicago 11, Ill.

1960 MEETINGS

LOS ANGELES COUNTY HEART ASSOCIATION Fourth Annual Midwinter Symposium. January 13, 9:00 a.m. Statler-Hilton Hotel. *Contact:* Walter S. Graf, M.D., Chairman, Professional Symposium Committee, Los Angeles County Heart Association, 660 So. Western Avenue, Los Angeles 5.

ORANGE COUNTY HEART ASSOCIATION Annual Symposium on Heart Disease. January 23, 8:30 a.m. to 5:30 p.m. Gourmet Restaurant, Disneyland Hotel, Anaheim. *Contact:* Howard G. Buswell, Executive Director, P. O. Box 1704, Santa Ana, KImberly 7-5976.

FRESNO COUNTY HEART ASSOCIATION Central California Eighth Annual Physicians Symposium. January 29, 8:30 a.m. to 5:30 p.m. Elks Club, Kings Canyon Road, Fresno. *Contact:* Max S. Millar, M.D., Chairman, Professional Services Committee, Fresno County Heart Association, 329 No. Van Ness, Fresno 1.

AMERICAN COLLEGE OF PHYSICIANS Annual Southern California Regional Meeting. February 6 and 7. Hotel del Coronado, Coronado. *Contact:* George C. Griffith, M.D., Governor for Southern California, A.C.P., P. O. Box 25, 1200 North State St., Los Angeles 33.

CALIFORNIA MEDICAL ASSOCIATION Annual Meeting, February 21 through 24, Ambassador Hotel, Los Angeles. *Contact:* John Hunton, executive secretary, 450 Sutter Street, San Francisco 8; or Ed Clancy, director of Public Relations, 2975 Wilshire Blvd., Los Angeles 5.

SOUTHWESTERN PEDIATRIC SOCIETY Spring Lecture Series, March 1 and 2, Statler Hotel, Los Angeles. *Contact:* Wendell Severy, M.D., program chairman, 11633 San Vicente Blvd., Los Angeles 49.

SOUTHWESTERN SURGICAL CONGRESS. March 28 through 31, Riviera Hotel, Las Vegas, Nevada. *Contact:* Miss Mary O'Leary, executive secretary, 1213 Medical Arts Building, Oklahoma City, Oklahoma.

NEUROSURGICAL SOCIETY OF AMERICA. March 30 through April 2, Del Monte Lodge, Del Monte. *Contact:* Raymond K. Thompson, M.D., secretary, 803 Cathedral Street, Baltimore 1.

CALIFORNIA MEDICAL ASSISTANTS ASSOCIATION Annual Convention. April 23 and 24. Claremont Hotel, Berkeley. *Contact:* Mrs. Anne Reece, President CMAA, 1837 So. Indiana St., Porterville, California.

PAN-AMERICAN MEDICAL ASSOCIATION CONGRESS. May 2 to 11, Mexico City. *Contact:* Joseph J. Eller, M.D., director general, 745 Fifth Avenue, New York, N. Y.

CALIFORNIA HEART ASSOCIATION Annual Meeting and Scientific Session. May 20 through 22. Claremont Hotel, Berkeley. *Contact:* J. Keith Thwaites, executive director, 1428 Bush Street, San Francisco 9.

PAN-PACIFIC SURGICAL ASSOCIATION 8th Intensive Surgical Congress, embracing all Surgical Specialties. September 28 through October 5, Honolulu, Hawaii. *Contact:* F. J. Pinkerton, M.D., director general, Suite 230, Alexander Young Building, Honolulu 13.



THE PHYSICIAN'S *Bookshelf*

EYE SURGERY—H. B. Stallard, M.B.E., M.A., M.D. (Cantab.), F.R.C.S. (Eng.), Hon. LL.D. (St. Andrews); Surgeon, The Moorfields Eye Hospital; Eye Surgeon, St. Bartholomew's Hospital; Late Pathologist and Curator, The Moorfields Eye Hospital; Eye Surgeon, Radium Institute and Mount Vernon Hospital; Officer of the Order of St. John of Jerusalem; Major, R.A.M.C. (T.A.). Third Edition, Revised, 899 pages, with 671 illustrations, 1958. The Williams & Wilkins Company, Baltimore, Maryland, \$18.00.

This book like previous editions is well written and covers present-day accepted surgical procedures.

The chapter on anesthesia, local and general, has been revised clearly explaining present day techniques.

The plastic surgery discussion is thorough and indicated long years of experience.

In his chapter on glaucoma he discusses cyclodiathermy and cycloelectrolysis in addition to the accepted surgical procedures.

The chapter on corneal surgery is well written and easily understood.

The chapter on retinal and choroid diagnosis and treatment includes all the newer methods as well as the older well-tried procedures. Included in this chapter is the use of surgery of the vitreous.

The book has been written by a man with a wealth of surgical experience who has supplied to the reader the procedures that have stood the test of time.

ALFRED R. ROBBINS, M.D.

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LONG-TERM ILLNESS—Management of the Chronically Ill Patient—Edited by Michael G. Wohl, M.D., F.A.C.P., former Clinical Professor of Medicine (Endocrinology), Philadelphia General Hospital and Temple University School of Medicine; Chief of Nutrition Clinic, Philadelphia General Hospital; Consultant Physician in Medicine, Albert Einstein Medical Center; Attending Physician, Home for the Jewish Aged. With the Collaboration of: Seventy-nine Contributing Authorities. W. B. Saunders Company, Philadelphia, 1959. 748 pages, \$17.00.

CARE OF THE GERIATRIC PATIENT, THE—E. V. Cowdry, Ph.D., Sc.D. (Hon.); Director of Werner Cancer Research Laboratory, Washington University School of Medicine; formerly President of the Gerontological Society and of the Second International Gerontological Congress; Chairman of the Medical and Scientific Committee, American Society for the Aged, Inc. The C. V. Mosby Company, St. Louis, 1958. 438 pages, \$8.00.

The measure of current interest in any given area of medicine is reflected in the number of books published on the subject. Thus, the increasing number of old people in the United States and the consequent increasing importance of diseases of older people—and of chronic disease—have begun to bring forth a spate of medical literature. Two of the better recent books in the field are reviewed below: Long-Term Illness and The Care of the Geriatric Patient.

The treatment of chronic illness is developing rapidly along two main courses. The first is along the line of tradi-

tional medical therapy. The second is the particular outgrowth of rehabilitation principles evolved during and since World War II. These books demonstrate and include this dichotomy, but leave the reader to differentiate for himself.

The Care of the Geriatric Patient is a comprehensive series of monographs, addressed primarily to the physician, on the practical care of geriatric patients. It accentuates the emotional, mental and physical differences between old people and those of fewer years.

In this monographic type presentation, each author offers his own viewpoint on a given subject—without regard for the other contributors. Consequently, there is a certain amount of overlapping and duplication: For example, in Chapter 3 on Medical Aspects of Geriatric Care and Chapter 16 on Rehabilitation of the Geriatric Patient; and in Chapter 4 on Mental Aspects of Geriatric Care and Chapter 11 on Geriatric Nursing. There is also, at times, a conflict of opinions, due to the wide variance in background and experience of the various authors, and this is apt to be confusing to the reader.

Despite these criticisms, the physician will find this a valuable volume of information on the care of older people. It gives good insight on what can be—and is being—done for geriatric patients. Doctors probably will find most appealing Chapters 3 to 7 which discuss the medical, mental and surgical aspects of geriatric care. (In Chapter 3, Paul Starr has compressed an entire text into 44 pages; this is particularly recommended reading!)

The use of the title Long-Term Illness mirrors the changing outlook in the management of chronic disease. Although today's doctor realizes the prolonged nature of the condition with which he is dealing, he need no longer look upon that condition simply as an irreversible pathologic process that leaves the patient completely disabled. Although he may not be able to cure most chronically ill patients, he may be able to do a great deal for them. Indeed, some chronic diseases, such as diabetes and pernicious anemia, may in certain cases become a matter of education as much as treatment. And many other chronically ill patients, for whom the outlook was formerly considered hopeless, have been able to achieve a high level of self care.

Doctor Wohl has gathered together a large number of contributors to present as many aspects of long-term illness as possible. Brought into a single volume for the benefit of the practicing physician interested in treatment of the chronically ill, this tends to break down some of the barriers of specialization existing today. For example, the doctor has in one book, considerations of prostatism or of urolithiasis by a urologist, of deafness by an otologist or of chronic diseases in children by a pediatrician. (We can anticipate that the complexities and details as discussed in the treatment of these multifarious conditions will probably create a new group of "specialists in chronic disease!"

Long-Term Illness is divided into two sections. The first 90 pages deal with general principles. The first portion of

Chapter 1 is concerned mainly with hospital facilities for veterans; but the second portion of Chapter 1 on home care and Chapter 3 on psychological problems of the chronically ill have a much broader scope. There are also interesting chapters on multiphasic screening, rehabilitation and nursing procedures.

The second and larger portion of the book is occupied by the therapy of specific diseases. The admitted emphasis is on management. In general, treatment is discussed first and etiology, diagnosis and pathogenesis are taken up only insofar as they relate to treatment.

Although, as a new approach, this book is generally very well done, the reviewer notes that in some chapters the accent on therapy degenerates into a listing of preparations. Proprietary names are used too often (without their pharmaceutical equivalents), and a few of the chapters suggest that the contributors have not kept up with the literature of the past 10 years.

The practicing physician and the medical student interested in the challenge of chronic disease will find this volume a good reference.

EDGAR WAYBURN, M.D.

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DIFFICULT DIAGNOSIS (A Guide to the Interpretation of Obscure Illness)—H. J. Roberts, M.D.; Diplomate of the American Board of Internal Medicine; Fellow of the American College of Chest Physicians; Associate of the American College of Physicians; Staff, Good Samaritan Hospital and St. Mary's Hospital, West Palm Beach, Florida; Formerly, Research Fellow and Instructor in Medicine, Tufts University Medical School; Formerly, Research Fellow and Instructor in Medicine, Georgetown Medical School. W. B. Saunders Company, Philadelphia, 1958. 913 pages, \$19.00.

In the mid-twentieth century American medicine has at its disposal the skilled manpower and the laboratory aids to make a higher percentage of antemortem diagnosis far earlier than would have been thought possible only a few years ago. Although this is one of the distinguishing traits of our period Dr. Roberts is the first with the vision to attempt to integrate it for the benefit of the physicians most concerned, the internists. The result is a volume which is basically a differential diagnosis of obscure diseases.

The book is composed of two main parts. Over 600 pages are devoted to the principal aspect, the differential diagnosis of "related diseases frequently producing puzzling illness," classified into 17 groups. In addition to most of the conventional groupings along clinical lines, there are separate chapters emphasizing the importance of iatrogenic illness, cutaneous medicine (with an atlas of 99 photographs) and obscure postoperative complications. Of interest is the fact that the gastrointestinal tract is included only in the chapter "Medical-Surgical Diagnostic Problems Relating to Obscure Abdominal Pain, Gastrointestinal Hemorrhage, and Intestinal Obstruction."

Slightly less than 200 pages are included under "A Classification and Analysis of Useful Diagnostic Procedures." In general, these are grouped along conventional lines but there are provocative deviations. "Studies of the Eyes in Systemic Disorders" might well be included in Part I next to Cutaneous Medicine. The sections on therapeutic diagnostic tests, withdrawal tests and provocative tests are all of considerable interest.

In a way Roberts wrote this book for his own guidance, to serve him as a practical refresher course in differential diagnosis at the internist's postgraduate level. He has displayed a broad knowledge, a tremendous ability to pluck from and to correlate recent American medical literature and the capability of compressing it all into readable form.

The author is the first to recognize (in the preface) that

there are many faults of omission and commission in this book as a text. A single physician's limitation of knowledge, his training, his personal biases are all apparent. In using the book the reader must be aware of these. Despite the extensive and excellent cross-indexing, it is hard for one to find his way around. Some of this could be improved by additional index recessions in the cut end of the pages (similar to those in a dictionary); there should certainly be one at the beginning of Part 2. The type at the beginning of the chapters should be more distinctive if the subtitles are to be used as differential diagnosis lists. More tables of differential diagnosis would crystallize the discussions. The very nature of the book involves much use of the references, which are hard to get at especially at the end of Part 1. Putting these at the end of each section might help. Finally a specific section on *how to use this book* would help the reader.

To summarize, this book can be of real value to the internist. It offers him a tool in the differential diagnostic problems he comes across almost daily. It is a reasoned text on diagnosis which includes the various ancillary methods he may wish to employ. It is a book which contains a mass of miscellaneous information, specifically and rationally directed towards diagnosis. We commend especially the orientation around iatrogenic disease.

EDGAR WAYBURN, M.D.

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PATIENT CARE AND SPECIAL PROCEDURES IN X-RAY TECHNOLOGY—Carol Hocking Vennes, R.N., B.S., formerly Surgical Supervisor and Clinical Instructor, University of Minnesota Hospitals, Minneapolis, Minnesota; and John C. Watson, R.T., Director of Courses in X-Ray Technology, University of Minnesota Hospitals, Minneapolis, Minnesota. The C. V. Mosby Company, 3207 Washington Blvd., St. Louis 3, Missouri, 1959. 203 pages, \$5.75.

Drive not a second nail till the first be clinched, goes an old saying. If student x-ray technicians, students of medicine who are first coming in contact with x-ray departments, and student nurses would read this little manual, the welfare of patients in x-ray departments and offices would be greatly enhanced and the thoroughness of many examinations achieved with greater ease. There are many excellent books on x-ray technique but to this reviewer's knowledge, this is the first monograph dealing with the handling and care of the patient undergoing roentgen diagnostic procedures.

After three introductory chapters dealing with general patient care, the relation of the technician to the patient and the elements of first aid care in emergencies, there is a succession of chapters dealing with routine and special procedures.

In the chapter dealing with general radiography and fluoroscopy there is a good summary of modern contrast media, radiation hazards and sterile technique. In the special chapters there is excellent information concerning improved methods of bedside radiography, the handling of patients needing special care such as the critically ill patient, the cardiac, the respirator case and the orthopedic problem. The handling of patients with various types of intubation, in the x-ray department, at the bedside and in the operating room is well described. The place of the technician in neuroradiography, vascular radiography and certain other contrast procedures is ably outlined. Matters dealing with sterile precautions, isolation techniques and so forth are summarized. The manual is well illustrated and indexed. It can be heartily recommended to x-ray students, student nurses and those who would attempt the teaching of such.

L. HENRY GARLAND, M.B.

CALIFORNIA MEDICINE

HYPERTENSION—The First Hahnemann Symposium on Hypertensive Disease—Edited by John H. Moyer, M.D., Professor and Chairman of the Department of Medicine, Hahnemann Medical College and Hospital. W. B. Saunders Company, Philadelphia, 1959. 790 pages, 77 figures, \$5.75.

This is a first rate symposium held in December 1958 by many acknowledged masters in the field. The book covers certain major headings: Part I is the "Pathology and Clinical Aspects of Hypertension"; Part II is the "Basic Concepts of the Etiology of Hypertension"; Part III is the "Pharmacology of Hypertension and the Use of Sympathetic Blocking Agents"; Part IV concerns the "Role of Salt and Diuretics in the Therapy of Hypertension," as well as a discussion of special problems in the therapy of hypertension; and Part V is the "Surgical Approach to Hypertension," as well as a discussion of effective therapy on prognosis in patients with hypertension.

One of the striking features of the book is that each individual contributor summarizes work in his particular pertinent field in very succinct fashion, and concludes with a detailed and up-to-date bibliography. The bibliography at the end of each discussion is the most up to date that the reviewer has seen anywhere. The book is also lavishly illustrated, and at the end of each major section, the participants in the symposium have a free discussion during which the controversial points are threshed out. Each discussion is led by a moderator who pinpoints the pertinent questions.

While the book does not have the coordinated feeling of the texts written by a single individual such as Pickering or Smirk, it presents a broadly based discussion of the current situation in hypertension from many points of view. The editor and the publishers are to be complimented on the speed with which the book has been put together since the papers were presented in 1958, and the book was marketed in May, 1959. References of publications in 1958 and even 1959 are included, indicating that this book is the last word in its field. It can be highly recommended to anyone interested in hypertension. The clinician will find details of therapy; the physiologist will find an adequate discussion of the physiological changes in the section of the "Basic Concepts of Etiology"; the pharmacologist will find ample discussion of the mechanism of action of drugs, and the pathologist will find a good discussion of pyelonephritis, and the pathology of the kidney and adrenal glands. The one subject which is only minimally discussed concerns the psychological factors in hypertension. There is one excellent chapter by Mills on hypertension and stress occupying 10 pages, but this is all the space that is given in a book of over 700 pages. The other criticism might be that there is no discussion of the central nervous system in hypertension, with particular reference to the cortex and hypothalamus. With these two relatively minor defects, the book can be heartily recommended.

MAURICE SOKOLOW, M.D.

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THE SYMPTOM AS COMMUNICATION IN SCHIZOPHRENIA—Editor, Lieutenant Colonel Kenneth L. Artiss, M.C., Division of Neuropsychiatry, Walter Reed Army Institute of Research, Washington, D. C. Grune & Stratton, New York, 1959. 233 pages, \$5.75.

This monograph is a report of research done by workers in the Army under the Division of Neuropsychiatry of the Institute of Research in collaboration with the Department of Psychiatry of the Hospital of Walter Reed Army Medical Center.

As stated in an excellent introduction by Rioch, there were two major objectives of the study. The first was an "... investigation of the principle and effectiveness of milieu therapy in an Army hospital for patients suffering

their first psychotic (schizophrenic) episode." The second objective was a study of the course of the schizophrenic illness of the patients involved in the project. This included a study of the family background, precipitating factors, the setting in which the illness became manifest, the therapy and follow-up studies on those patients that returned to duty. In addition to the introduction, the book is made up of seven chapters by the several authors under the editorship of Lieutenant Colonel Kenneth L. Artiss.

In the first chapter Dr. Artiss outlines the general theoretical position of the study. In this he describes the study as a behavioral science study in which use is made of the interdisciplinary approach involving psychiatry, social work, sociology and anthropology. He describes the model which was gradually evolved, consisting principally of the idea of a transaction between a patient and a group. It is the opinion of the authors that viewed in terms of this model, their studies indicate that young schizophrenic patients developed symptoms designed to release them from the group. Further, their studies indicate that the element of status in the group tended to provoke the symptoms in the patients. The essence of the communication in the patient's statement is stated as "I am weak and ineffectual" and that this appears to be set up in order to protect a phantasy of omnipotence in the patient.

Artiss points out that the work is based on a broad background of psychoanalytic thinking in addition to the special approaches of Reich, Alexander, Adolph Meyer and Harry Stack Sullivan.

In the introductory chapter the author gives an extremely interesting discussion of the Army as a cultural subgroup, together with other material. In the other chapters of the book are included material describing the collection of the data and the methodology. There is an excellent description of the breakdown of the schizophrenic during the training, followed by a study of the patient in therapy. Included also is a description of the study of the family background.

The book is recommended to psychiatrists and to physicians who have an interest in schizophrenia and research on that subject. The material included in the book represents an excellent representation of an attempt to investigate the problem of schizophrenia as it arises in this special situation and as it is viewed by workers in several disciplines.

CHARLES W. TIDD, M.D.

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CASE HISTORIES IN HYPNOTHERAPY—Arnold Furst and Lester T. Kashiba, M.D. The Genii Publishing Company, Los Angeles, California. Distributed by AAA Publishing Co., 345 "I" Street, San Bernardino, 1959. 163 pages, \$10.

There seems to be a superfluity of books on hypnotherapy in the literature these days and this latest one has, in the opinion of the reviewer, all the defects of the antecedent ones.

On the positive side the book describes, in a clear and concise manner, a variety of techniques of induction and other technical aspects of hypnosis which are equally well described in an abundance of other sources. The authors appear to have little interest in the theoretical aspects or implications of hypnosis and are generally sanguine and naive with regard to both their comprehension of the phenomenon of the hypnotic process and their gross underestimation of the dangers and contraindications of hypnotic work. In the book a scant page and a half of cursory material is devoted to the latter.

It is the decided opinion of this reviewer that a detailed, comprehensive knowledge of personality structure and psychodynamics is essential if one is to practice hypnosis with-

out harm to the patient. It is unfortunately true that this knowledge and experience is not usually gained through any means other than a complete psychiatric training. The amount of harm that can be done by lay hypnotists and by nonpsychiatric physicians is not, I believe, recognized generally or by the authors of this book.

C. W. WAHL, M.D.

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LEPROSY IN THEORY AND PRACTICE—Edited by R. G. Cochrane, M.D., Ch.B. (Glas.), F.R.C.P. (Lond.), D.T.M. and H.; Technical Medical Adviser, American Leprosy Missions, Inc.; Adviser in Leprosy, Ministry of Health, London; Vice-President, International Leprosy Association; Honorary Member, Indian Association of Leprologists. With a foreword by Sir George McRobert, C.I.E., M.D. (Aberd.), F.R.C.P. (Lond.), Senior Physician, Hospital for Tropical Diseases, University College Hospital, London; Formerly Professor of Medicine, Madras Medical College. Published in Bristol: John Wright & Sons Ltd., 1959. The Williams & Wilkins Company, Baltimore 2, Maryland, exclusive U. S. agents. 407 pages, \$15.00.

So many monographs on leprosy are available that one wonders what new features still another has to offer. One immediately notes that this is a collaborative text; 24 contributors have written various chapters. The result is an authoritative work dealing with every aspect of this interesting disease, handsomely and profusely illustrated. The reviewer wonders why the old error as to Hansen's part in the definition of the bacillus persists in the chapter on etiology. A review of the original papers on the subject shows that Hansen was really in great uncertainty and doubt about what he saw as he was not a trained bacteriologist and was unskilled in the finer methods. It was Neisser who went to Norway and brought home material which when properly strained showed the little rods so clearly. But this is a minor point and all aspects of leprosy are adequately covered in this excellent monograph of some 400 pages.

ARTHUR L. BLOOMFIELD, M.D.

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INDUSTRIAL CARCINOGENS (Modern Monographs in Industrial Medicine—4)—R. E. Eckhardt, M.D., Ph.D., F.A.C.P., Director, Medical Research Division, Esso Research and Engineering Company, Linden, N. J.; Associate Professor of Industrial Medicine, New York University, Postgraduate Medical School; Instructor in Medicine, Cornell University, Medical School. Grune & Stratton, New York, 1959. 164 pages, \$6.50.

Too often too many physicians in the general practice of medicine erroneously believe that for them there pertains little of value in articles or textbooks dealing with industrial medicine. It is to be hoped that such an attitude will not prevail when this monograph on Industrial Carcinogens comes to their attention. Although this book points out the occupational origin of certain cancers, it is to be remembered that it is very likely that the occurrence of such will come first to the attention of the family doctor.

As stated in the foreword of this book "research into the basic cause, or causes, of cancer has assumed in recent years tremendous proportions. While these causes still elude us, industrial physicians and hygienists, with their specialized researches, have demonstrated that certain substances are undoubtedly carcinogenic." In the pages which follow this introductory remark, Dr. Eckhardt proceeds to indicate those cancers in which (1) there is no doubt as to their occupational origin, (2) those in which the possibility exists that the etiology might be an occupational carcinogen and (3) those in which evidence is only fragmentary and acceptable statistical data lacking.

The book is divided into the following parts: Historicals, Experimental Carcinogens, Occupational Cancers, Protec-

tive Programs, Medico-legal Considerations and a Look Into the Future. Most fascinating is that portion devoted to the history of occupational cancer from 1775 (scrotal cancer in chimney sweeps) to the present. In the historical review there appears this significant statement, "a total of about 72 per cent of all occupational cancers have been the result of coal tar and shale oil exposures, and, fortunately, have involved the skin, a site most accessible to early diagnosis and treatment."

In the chapter on Occupational Cancers the author considers mostly the same organs or systems of the body that were studied in Experimental Carcinogens. There is much material in these two chapters that will change the concepts previously held by some of us, as, for example, the discussion on cancer of the bladder.

In this age of large awards accorded claimants, the physician who seeks to render a scientific, unbiased opinion will find well defined criteria upon which to render an opinion as to whether a given cancer is or is not of occupational origin. These are given in the chapter on Medico-legal Considerations.

Most textbooks as well as the reports from Cancer Commissions give little or no space to Occupational Cancers. Therefore this book serves to fill that void.

This reviewer is amazed at the amount of information contained in this monograph of only 164 pages. It is easy reading and adequately indexed. Of interest to any physician, it should be especially so to the dermatologist, urologist and chest physician.

R. T. JOHNSTONE, M.D.

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FUNDAMENTALS OF OTOLARYNGOLOGY—Third Edition—A Textbook of Ear, Nose and Throat Diseases. By Lawrence R. Boies, M.D., Professor of Otolaryngology, Chairman, Department of Otolaryngology, University of Minnesota Medical School. W. B. Saunders Company, Philadelphia, 1959. 510 pages, \$8.00.

Primarily intended for use as a textbook by undergraduates, Boies' *Fundamentals of Otolaryngology*, which was first published in 1949, is now in its third edition. Despite its diminutive size in relation to that of other texts on this subject, this book is a didactic giant. It is certainly deserving of the high esteem in which it is held by so many prominent teachers of otolaryngology. The sections devoted to physical diagnosis are especially valuable to the medical student.

This new edition represents a much more comprehensive revision of the previous edition (1954) than is ordinarily encountered in medical textbooks. There is a brand new section on applied anatomy and physiology of the ear. Added to the chapter on hearing loss are sections on traumatic perforation deafness, tympanoplasty, and stapes mobilization. The chapters on tinnitus and vertigo are entirely new. Also included, is a new chapter devoted to the common cold. The revised chapter on sinus disease occupies less than half the space given to the subject in the earlier editions. Other additions include chapters on reconstructive surgery of the nose and diseases of the salivary glands. This volume, like the previous editions, contains an excellent bibliography at the end of each chapter; the bibliographies have also been thoroughly revised. Many new illustrations of appropriate quality have been inserted.

Although some of the subject matter included in this book is controversial, and despite the fact that some of the revised portions of the text were, in the opinion of this reviewer, better prior to revision, the new edition of this book is believed to be one of the finest works of its kind ever published.

CHARLES P. LEBO, M.D.

TUBERCULOSIS MEDICAL RESEARCH—NATIONAL TUBERCULOSIS ASSOCIATION, 1904-1955—Virginia Cameron, formerly Medical Research Secretary, and Edmund R. Long, M.D., formerly Director of Medical Research, both from National Tuberculosis Association. Published by National Tuberculosis Association, 1790 Broadway, New York 19, N. Y., 1959. 325 pages, \$5.00.

The role of the National Tuberculosis Association in the support of scientific investigation is not well known and information previously recorded is scattered widely. This volume brings together the records of the Medical Research Committee of this association and does much to refute a commonly held opinion that the N. T. A. has neglected this field. This authoritative record should be in every medical library and is of great interest to all who have followed the remarkable advances in tuberculosis research.

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INSULIN TREATMENT IN PSYCHIATRY—Proceedings of the International Conference on the Insulin Treatment in Psychiatry Held at the New York Academy of Medicine, October 24 to 25, 1958. Edited by Max Rinkel, M.D., (Boston, Massachusetts) and Harold E. Hilmwich, M.D., (Galesburg, Illinois). Philosophical Library, Inc., 15 East 40th Street, New York 16, N. Y., 1959. 386 pages, \$5.00.

This book records the proceedings of the "International Conference on the Insulin Treatment in Psychiatry" held at the New York Academy of Medicine October 24 and 25, 1958. It contains articles on the historical, physicochemical and clinical aspects of insulin treatment. The contributors include representatives of North America, South America and Europe, espousing varying points of view, though all seemingly somewhat favorably disposed toward insulin treatment. Various participants discuss the papers presented, and there is a considerable bibliography.

The book and the conference whose proceedings it reports are a tribute to Manfred Sakel who introduced Insulin Shock Treatment for Schizophrenia. The tribute is certainly deserved, since Sakel introduced a note of hope and enthusiasm into what was then a bleak outlook of treatment of this fearful illness. Unfortunately, a number of the contributors seem to imply that Sakel's treatment is the ultimate one for schizophrenic illnesses. Indeed, insulin is claimed by some of the participants to "cure" or "eliminate" the illness. Other contributors are more conservative and see it only as speeding up the remissions in "recoverable" cases. Statistics quoted by the various authors and discussants range from those indicating vast superiority of insulin-treated over control groups to those which show no great difference between treated and untreated cases in a ten-year follow-up.

The book offers a good review of the various arguments in favor of insulin treatment and encourages psychiatry to reverse the present trend away from it. Its major fault would seem to be its apparent bias toward organic therapies and, particularly, insulin, even though some contributors speak encouragingly of psychological approaches to treatment. A few of the participants seem inclined to take an offhand slap at psychotherapy from time to time. There is some implication that psychotherapy is unscientific and unsoundly based. In fairness to the proponents of psychotherapy it should be observed that the speculations advanced in some of the clinical papers, as to the action of insulin at the cellular level, seem quite as unscientific, in the absence of any evidence to prove them, as the most abstruse psychodynamic theories that might be advanced. There seems sometimes to be the implication that what makes a theory "scientific" is not the soundness of the evidence on which it is based, but the fact that its terminology is anatomic, biochemical or mathematical. The bias for

organic therapies is probably explainable on the grounds that the Conference was a tribute to Dr. Sakel who was himself a proponent of such an organic orientation. Yet the fault is not less a fault for all that, in a book which is implied to be an objective collation of views on both sides.

It is a pity, though this book is by no means a unique example in medicine, that the followers of a pioneer in the field should later be the most jealous guardians of the frontier, against other pioneers.

D. A. SCHWARTZ, M.D.

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A DOCTOR REMEMBERS—By Edward H. Richardson, M.D., Associate Professor Emeritus of Gynecology, The Johns Hopkins University School of Medicine, Baltimore, Maryland. Vantage Press, Inc., 120 W. 31st Street, New York 1, N. Y., 1959. 252 pages, \$3.95.

Anyone who graduated from medical school more than a dozen years ago knows the name Edward H. Richardson in association with gynecology. He was Associate Professor of Gynecology at John Hopkins and was renowned especially for the Spalding-Richardson composite operation for uterine prolapse and for his technique of total abdominal hysterectomy. A variant of his technique is widely used today under the name of intrafascial hysterectomy. In this little volume Dr. Richardson has told his story from childhood through his many years of practice in the field of gynecology. His chronicle will be of special interest to all those who received any part of their medical education, or of their resident training at Johns Hopkins; and more particularly it will interest those who are in gynecology.

The anecdotes of his boyhood days reflect life in rural Virginia in the latter part of the last century. They also reveal Dr. Richardson's early determination and high resolve. Especially interesting is his account of attendance at the Eastman Business College and his later job with the Farmville Commercial Company as bookkeeper and cashier at the tender age of 16 because of his knowledge of accounting.

Dr. Richardson received his college education at the Virginia Polytechnic Institute and at Hampden-Sydney College which was only a few miles from his place of birth. He then attended Johns Hopkins Medical School after being forced to put in an extra year of premedical work at Johns Hopkins University because of a qualification which he lacked. He showed great determination in overcoming this unexpected obstacle.

The highlights of the book are the descriptions of the Big Four, Welch, Osler, Halstead and Kelly who were all there as professors while he was going through the medical school, and indeed he worked as a house officer under the latter two, and of his postgraduate years in training. He paints a very interesting picture of Howard Kelly especially and depicts him as a very hard working man who was a religious fanatic all of his life and very much of a showman in the operating room. He tells us that Kelly resigned his professorship in 1919 at the age of 60 years because he was not in sympathy with the full-time system which was introduced at Hopkins at that time. Dr. Richardson expresses himself as also unsympathetic with the full-time system, at least for the chairmen of the clinical departments. It is interesting to note that Dr. Richardson spent fourteen years getting his college and medical education and not until the last one did he receive a penny in salary. Not one breath of complaint does he utter against this circumstance —indeed he views these years with great nostalgia.

Of great interest will be the account of the offer to him of the professorship of Gynecology when Dr. Cullen retired. I believe that all of his readers will applaud his decision

not to accept the offer because of his age of 63 years. This was no doubt a very difficult thing for Dr. Richardson to do because there could not have been anything that he would rather have had happen to him, if only it could have come at a better time in his life.

Another point of interest is the vehemence with which he expresses his dislike of the conception of a combined Department of Obstetrics and Gynecology. Of course he was brought up under the other system and this represents typical Hopkins thinking. He will be distressed by the current move to effect a combination when the present retiring departmental chairmen are replaced.

DANIEL G. MORTON, M.D.

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PREVENTIVE MEDICINE—Principles of Prevention in the Occurrence and Progression of Disease—Edited by Herman E. Hilleboe, M.D., Commissioner of Health, State of New York; and Granville W. Larimore, M.D., Deputy Commissioner of Health, State of New York. W. B. Saunders Company, Philadelphia, 1959. 731 pages, 59 figures, \$12.00.

This text is outstandingly attuned to the instruction of physicians and medical students in their present-day responsibilities for preventive medicine. Public health workers recognize that the State health departments of California and New York have the most advanced programs of research and service in the nation; both tie their programs into medical practice. Dr. Herman Hilleboe, New York's Commissioner of Health, has developed very extensive teaching responsibilities of his staff in the medical and public health schools of his region. In this text we can study those excellent presentations. In no sense are they provincial and are just as applicable to California as to New York.

The content is developed logically in three parts. Part One is the Prevention of Occurrence. Part Two is Prevention of Progression. Part Three is Supporting Sciences for Preventive Medicine. Under Part One, Primary Prevention, are first considered environmental factors, with excellent discussions of the basic problems of water, milk, waste; but, in addition, the very modern problems of housing, accidents, air pollution, ionizing radiation and medical defense against atomic attack or natural disaster. These are the most concise and at the same time, thoroughly up-to-date discussions to be found in any book of 1959.

Next the authors consider prophylactic measures against diseases. The bacterial, virus, rickettsial, fungus, parasitic and venereal diseases are succinctly discussed systematically under the headings *definition, etiological agent, diagnosis, epidemiology, treatment and prevention and control*. Preventive aspects of nutrition, dentistry, and maternal and child health complete "primary prevention." "Secondary prevention" again emphasizes the role of the practicing physician with extensive discussions of early detection, systematic follow-up, with correction and then rehabilitation. There are excellent summaries of alleviation of alcoholism and narcotic addiction.

The Third Part, "Supporting Science for Preventive Medicine," includes the role of education, not only general health education, but also a practical chapter on patient education and one on the postgraduate education of physicians. Its second section includes a discussion of pertinent specialized sciences such as social work, public health nursing, the hospital, and a very stimulating and provocative chapter on epidemiology. Dr. Hilleboe concludes with his authoritative, though perhaps too condensed consideration of official and voluntary health agencies. A master administrator, he might well have expanded this chapter to the advantage of all of us.

While there are thirty-one collaborators, their styles are

in harmony and each stresses only salient points with notable emphasis on the role of the physician in practice. Each author cites fully current references, a number of 1958 articles being cited. Thus, amphotericin B is mentioned for the deep mycoses, so is Nalline as the test for presence of narcotic addiction and, with an eye to the immediate future, Hilleboe alludes to the full *fifty states!*

This is an outstanding acquisition, recommended for its completeness, readability, and, especially, its original perspective.

CHARLES E. SMITH, M.D.

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MIND IF I SMOKE?—Harold Shryock, M.A., M.D. Pacific Press Publishing Association, Mountain View, California, 1959. 160 pages: paper binding, \$.50; cloth binding, \$2.50.

This small booklet deals with the pros and cons of smoking, with a few omissions. The author notes the association of lung cancer with cigarette smoking but fails to note the well-established association of bladder cancer with the same drug. He quotes the Hammond and Horn conclusions but not the Berkson. He believes that many of those who defend smoking are either engaged in the tobacco industry or are swayed by the Federal taxes resulting from tobacco consumption. The book is reportedly designed for laymen but it is doubtful if readers of weekly or monthly magazines will find anything particularly new. Nevertheless, if it helps to cure a few addicts it will have served some purpose.

If a second edition is published it should include reference to "Emotional and Other Selected Characteristics of Cigarette Smokers and Nonsmokers as Related to Epidemiological Studies of Lung Cancer and Other Diseases" by Lilienfeld (Journal National Cancer Institute, 22, 259, 1959).

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NOTES OF A SOVIET DOCTOR—2nd Edition, Revised and Enlarged—G. S. Pondoov, Honored Physician of the Georgian SSR. Translated from Russian by Basil Haigh, M.A., M.B., B.Chir. (Originally published by the Georgian Medical Press, 1957.) Consultants Bureau, Inc., 227 West 17th Street, New York 11, N. Y., 1959. 238 pages, \$4.95.

This book is of great interest to the American reader and one's general impression is that East is East and West is West and never the twain shall meet. The writer exudes an almost evangelistic enthusiasm for Marxist-Leninist philosophy and points out its application to socialized medicine. The first chapter opens with the recognition that the Soviet doctor's education is purely theoretical; that he or she is "today launched straight from his medical school into working on his own responsibility." This inadequacy is to be overcome by ensuring "that the medical schools produce literate and scientifically able doctors with a highly developed sense of patriotic duty and a readiness to serve their country whole-heartedly." And in conclusion "only that doctor who combines a specialist's knowledge of medicine with a Marxist and Leninist interpretation of society and who is firmly grounded in the materialistic doctrine can be regarded as a perfect Soviet doctor."

But the bulk of the book is a historical sketch of the development of medicine with much interesting material on Russian contributions and chapters containing excellent advice about the doctor's attitude to disease and patients which could be read to advantage by every medical student and young doctor.

However, despite these redeeming features, one has the feeling that

All that's said is marr'd.

ARTHUR L. BLOOMFIELD, M.D.

CALIFORNIA MEDICINE